

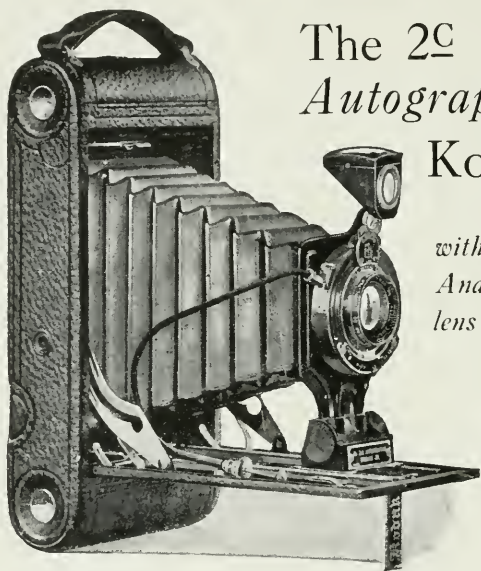
KODAKERY

A
MAGAZINE *for* AMATEUR
PHOTOGRAPHERS



NOVEMBER 1921

CANADIAN KODAK CO., LIMITED.
TORONTO, CANADA.



The 2C
Autographic
Kodak Jr.

*with Kodak
Anastigmat
lens f. 7. 7.*

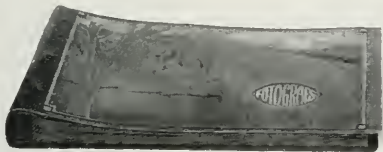
SEE the 2C at your Kodak dealer's. You will find it a splendidly constructed, handsomely finished instrument that it will be a pleasure to carry. Look at a specimen picture made with this model. You will discover that the shape fits the view and that the size, $2\frac{7}{8} \times 4\frac{7}{8}$, is generous.

Furthermore, you will find that it is a good picture. Sharp-cut, clearly-defined prints are the direct product of the Kodak Anastigmat lens *f. 7. 7* which has no superior, regardless of price, as far as definition and flatness of field are concerned.

The price of the 2C *Autographic* Kodak Jr. with Kodak Anastigmat lens *f. 7. 7* is \$25.00.

CANADIAN KODAK CO., LIMITED
TORONTO, CANADA

You can lose your prints in bureau drawers, pigeon holes, envelopes, shelves, or you can keep them in



The Toledo Album

THIS album has been selected by a group of Kodak experts as the one, price considered, best adapted to satisfy the average wants of most amateurs.

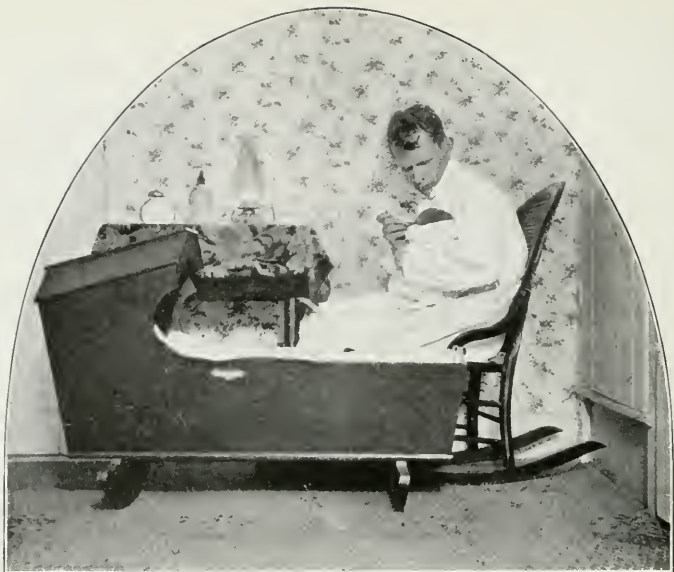
It is loose-leaf and is furnished with fifty black leaves. The cover is made of De Luxe artificial leather, embossed and beautifully tinted in multi-shades.

THE PRICE

Size, 5 x 8 inches	\$2.90
Size, 7 x 11 inches	4.00

At Your Dealer's

CANADIAN KODAK CO., LIMITED
TORONTO, CANADA



NIGHT LIFE

MADE WITH A NO. 3 KODAK

BY J. H. SHIELDS



PUBLISHED MONTHLY—YEARLY SUBSCRIPTION, 60 CENTS; SINGLE COPIES, 5 CENTS

VOL. IX

NOVEMBER, 1921

No. 1



Made with a 2A Brownie, by Mrs. F. O. Edwards

REFLECTIONS

BY ALBERT CRANE WALLACE

Illustrated with Brownie and Premo Pictures

I HAVE been reflecting on reflections. Some pictures are quite sufficient to start one reflecting, and certain glimpses of water, giving their repeated stories of foliage and other forms, are a pleasant reminder of camera adventures in search of the magic of light.

When we make a portrait indoors a reflector is often indispensable. But it is to be invisible so far as the picture is concerned. Outdoors, the water reflector is not only important to the picture but very often it is the most important part of it.



Made with a Premo, by E. J. Brown

One breezy person declared to me that reflections in the water repeated the landscape "and put jazz in it."

Well, those dancing images in the water may be jazzy. It doesn't matter. They are magical just the same. They give their own movement to a scene. If you like, you might call them an accompaniment to the time of the landscape—sometimes a lively accompaniment, sometimes one that is very soft.

Even a wet street

lines of a city by adding to it all sorts of queer extensions of the lines that belong to buildings otherwise simple enough.

And what could be more romantic than the reflections of the sun on water (cleverly caught to suggest moonlight) when there are just sparkles enough for the right pictorial effect?

Also there are the great changes in composition when the chance of good reflections is to be considered. These reflections become, in fact, a central feature of the composition, making it wise to select the point of view with special care for their lines.

It is a curious optical fact that reflections precisely in the middle of a picture run straight downward toward the eyes—or toward the lens. Reflections on either side bend slightly inward because all are really following a



Made with a Premo, by Miss R. Kraker



*Made with a No. 2 Folding Brownie
by Dr. Clinton L. Decker*

line toward the point of observation.

Perfectly still water sometimes gives a reflection, as in a stretch of lake, so perfect that the picture may be turned upside down with-

out revealing which is the image and which is the reflection. Naturally, water in which there is movement makes it necessary that the exposure should be quicker than one for absolute stillness.



ARAB HORSEMEN AT AMARA

Made with a 2C Kodak Jr.

WHEN AND WHERE

JOE ELLIS may be an insurance broker by occupation but he is a duck hunter by instinct. Some people say he can tell a widgeon from a redhead at three hundred yards. Anyway he does know where to locate the big ones.

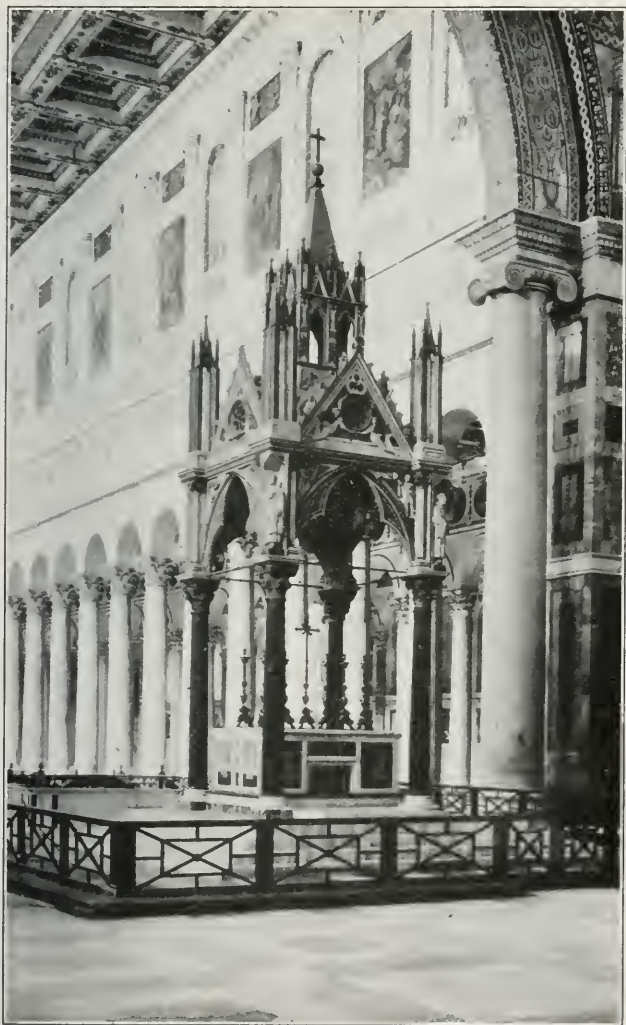
When Joe goes hunting, his camera is just as essential as his gun. What he can't shoot with a 12-gauge he shoots with a 3A. Every day he starts out with a couple of rolls of film, which he develops when he gets back to the cabin at night.

Each negative used to go into a separate envelope on which Joe used to scribble the name of the place where he had taken the picture, and the date, so he could identify the prints when he showed

them to his friends back east. The notation on the envelope always recalled to him many interesting details of that day's hunt. But Joe's scheme was revolutionized a few years ago.

The autographic feature had scarcely been announced before Joe Ellis had bought an autographic back for his 3A Kodak. Now he keeps a whole dayful of negatives in one envelope; and on each negative the date and place were written when the exposure was made.

Joe Ellis is a middle-aged man, experienced and traveled. He knows that even the best memory can't retain details for long. Joe writes date and title on the film at the time.



ALTAR OF ST. PAUL'S AT ROME
Made with a 3A Kodak



FIG. 1—*Made with a dirty lens*

WHAT A DIRTY LENS DOES TO A PICTURE

THE brilliancy of your picture depends, primarily, on the cleanness of your lens. The image that a dirty lens projects to the film is as lacking in brilliancy as the image that reaches your eyes through a dirty window pane.

The writer has often met people, on dusty streets and country roads, who were carrying a camera with the bellows extended and the lens exposed to the dust that was being stirred up by passing vehicles.

What a lot of dust on a lens does to the picture is shown by Fig. 1. By comparing this with Fig. 2, which was made a few moments later and received the same exposure, with the same lens, you will appreciate the importance of keeping your lens clean.

Both of these pictures were taken under a cloudless sky on the same roll of film. The roll was

developed in the tank and the prints were made on the same grade of paper, in order to show that the difference in the quality of the pictures is solely due to the fact that one was made with a clean and the other with a dirty lens.

A brighter looking (more contrasty) picture than Fig. 1 can be obtained from the dirty lens negative by making the print on a very contrasty grade of paper, but no picture having the same gradations of light and shade as Fig. 2 can be secured from this negative; nor could a better negative have been secured with a longer or shorter exposure, or by any change in developing, while the dirt was on the lens.

A dirty or foggy lens prevents part of the light that the subject reflects to it from reaching the



Fig. 2—Made with the same lens as Fig. 1—after it was cleaned

film, and it also scatters the light that it does transmit to the film.

If the pictures you are making now are not as brilliant as those you formerly obtained you should see whether or not your lens is clean.

While lenses should be examined frequently they will not need cleaning unless they are dirty, or are fogged with the filmy deposit that gradually forms on all glass which is exposed to the atmosphere.

If there is dust on your lens, remove it with a camel hair brush. To clean it, breathe on it, then wipe it carefully with a clean, well worn linen handkerchief that has been made soft by many washings.

Lenses should never be cleaned with silk or wash leather, or with any stiff cloth, nor should ordinary paper of any kind be used. All these are apt to scratch the

glass. If you prefer paper to a linen handkerchief be sure to obtain the kind that is made expressly for cleaning lenses. This can be obtained from dealers in optical goods.

Never clean a lens with alcohol or ammonia or with any kind of acid, and never use any polishing preparation on a lens.

It is only rarely that any but the outer surface of a lens needs cleaning, but if the surface that is inside the shutter or lens barrel is foggy, be sure to remove and replace one combination (if it is a double lens) before removing the other. If the front and back lenses are transposed the lens may be useless until each combination is placed where it belongs.

Never remove a lens from the metal rings that hold it. If you do the lens may have to be sent to the makers for repairs.

The single lenses on box cameras

cannot be removed, but they can be cleaned with a piece of handkerchief wrapped around the head of a small pencil-shaped brush. The front surface of the lens can easily be reached by opening the

shutter on "T" as for a time exposure.

Since brilliant pictures can only be made with brilliant lenses it is important that you should keep your lens clean.



A CONFERENCE

Made with a No. 3 Special Kodak, by Dr. Chas. H. Jaeger



THE QUEEN OF ROUMANIA AND HER DAUGHTER,
THE PRINCESS ILIANA

Made with a Graflex, by Merl LaVoy



FIG. 1—*Made without a Filter*

THE MOUNTAINS IN THE DISTANCE

MAKING good photographs of distant mountains sometimes proves a problem to those who have had no experience in picturing objects that are several miles from the camera.

The problem that must be solved in photographing extremely distant mountains is solely one of securing ample contrast between the mountains and the sky.

The contrast in the subject we photograph may be represented by differences in color, as for instance, a snow-capped peak seen against a blue sky background, or by differences in light and shade, such as are seen when mountains and sky appear to be of the same color, with the sky a shade lighter or darker than the mountain tops.

If any contrast is visible in the subject it can be recorded in the negative. This can often be done

without using a filter and it can always be done with a suitable filter. With the Kodak and the Wratten K2 Filters more contrast will be recorded than when no filter is used, and with the Wratten G Filter, negatives can be obtained which will show much more contrast between the mountains and the sky than we were able to see at the time we examined the subject.

When distant mountains are seen through a *clear* atmosphere they will seem to be much nearer than they really are, and, if the sky is blue, they will be so clearly outlined that they can be recorded without a filter. A clear atmosphere is, however, only found where there is no dust, smoke or water vapor in the air, in sufficient quantities to cause haze, and about the only times when it is found anywhere in Canada,



Fig. 2—*Made with a Wratten G Filter*

excepting after such storms as clear the air, is in parts of the Rocky Mountain region.

When viewed from a distance the tops of high mountains that lie both east and west of the Rockies are usually partly or wholly hidden by haze, and the only way that these hills can be clearly outlined against the sky is by using a filter that will absorb the haze. If the haze is slight a Kodak Color Filter will absorb some of it, and the Wratten K2 Filter will absorb most of it, but if the haze is so dense that the mountain tops can be only faintly seen it will be necessary to use a Wratten G Filter.

What the G Filter does can be seen by a comparison of our illustrations. Both pictures were reproduced from negatives that were made with a 3A Kodak, on Eastman Roll Film. Fig. 1 shows the best result that could be obtained without a filter. Fig. 2 shows the ad-

vantage of cutting out the haze with a G Filter.

The foreground of these pictures represents a field of dandelions. The reason why these cannot be seen in Fig. 1 is because yellow photographs dark unless a suitable filter is used.

This particular subject was selected because it not only serves to show how effectively the G filter absorbs haze but because it also illustrates how easily snow capped mountains can be clearly outlined against white clouds when there are shadows among the clouds.

Since the G Filter puts more contrast in the picture than can be seen in the subject it should only be used when it is necessary to record more contrast than can be seen in order to suitably portray the subject. It is especially useful for mountains and extremely distant landscapes that are partly obscured by haze, and for making birdseye

views of cities, above which are floating light smoke and such fine dust as remains suspended in the air until it is washed down by rain.

While the G Filter will cut out haze it will not cut out fog. The haze that is so often seen in the distance is composed of very fine dust or water vapor or, of both dust and vapor, the individual particles of which are extremely small. Fog is composed of much larger water particles which absorb the blue and green in white light so effectually that these rays cannot penetrate it.

The exposure to give for far away mountains and extremely distant

landscapes, when no filter is used is $1/25$ of a second with stop 32 on rectilinear, or with stop $f.22$ on anastigmat lenses. With a single lens folding Kodak, Premo or Brownie, the exposure should be $1/25$ second with stop No.3, and with a fixed focus single lens box camera, the exposure should be a snapshot with the next smaller stop than the one used for ordinary snapshot work.

When a filter is used these exposures should be 10 times as long with the Kodak Color Filter, 20 times as long with the Wratten K2 and 100 times as long with the Wratten G Filter.



ON THE FARM

Made with a No. 3 Special Kodak, by J. F. Graether



THE MUSIC HOUR
Made with a Graflex, by M. W. Reeves

S P O R T .

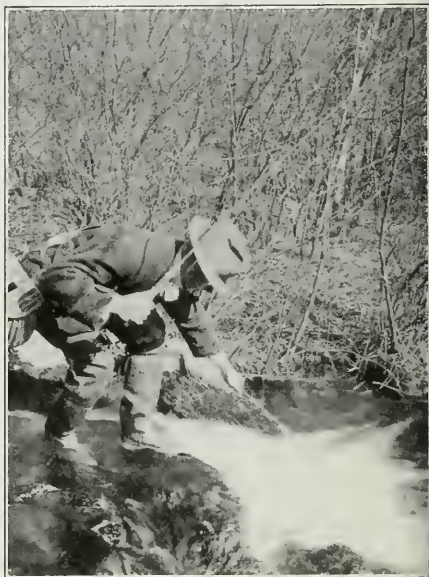
RE



Made with
a No. 1
Kodak Jr.,
by James
J. Ryan



Made with a No. 1 Kodak Jr., by James J. Ryan



ON THE LEFT, Made with a No. 2 Brownie,
by H. E. Nickerson. ABOVE, Made with a
No. 1 Kodak Jr., by James J. Ryan.

TED IN A GROUP OF TDOOR PICTURES



Made with a No. 1 Special Kodak,
by G. W. French



Made with a No. 0 Graphic,
by J. F. Graether



Made with a No. 1 Special Kodak, by S. H. Anderson, Jr.



Made with a Vest Pocket Kodak, by Robt. J. Dell



Made with a No. 2 Brownie, by Leonard V. Huber.



IN AN ENGLISH VILLAGE
Made with a 2C Kodak Jr.

MAKING PRINTS KEEP THEIR PLACE

“TAKE you long to shuffle these prints, Craig?”

Lane got no answer.

“Pretty hard work, breaking corners off, isn’t it?”

Still no answer.

“Have much trouble making them crack when you bend them?”

Craig and Lane were vacation companions of long standing, so the deadly words they hurled at each other bounced off with no harm done. Craig kept on reading. Lane kept on talking.

“Lazy old hound, aren’t you Craig? You treat these prints like a pack of worn out playing cards—tossing them loose into that drawer there. Some of them are cracked. Corners are broken. Aren’t exactly clean either.”

Craig lowered his book. “Am

I making you look at those pictures or did you ask?”

“I asked to see those we took at Mount Robson. But I’ve had to spend ten minutes sorting them out. They were scattered all through this bunch. Why don’t you separate the whole lot into groups so a fellow can find what he wants?”

“You mean so he can find pictures of himself without having to look at pictures of anybody else,” commented Craig.

“Well, when Mount Robson and I pose for a picture you ought to take decent care of the prints. I see you have plenty of thumb-prints on them for identification.”

“They’re not all my thumb-prints.”

Lane grinned mercilessly through

a cloud of smoke. "Well then, they're not even good for identification, are they?"

"Out with it Lane. What do you want me to confess? Arson? Murder? Smuggling?"

"Only carelessness, old dear, only carelessness."

"I suppose that means the gallows for me, doesn't it?"

"No, you get the guillotine. In the Latin countries a print trimmer is called a guillotine, so it's the guillotine for you. You trim these prints and I'll mount them in an album. We'll snip off the cracked edges and broken corners

and give the picture some style. Then we'll separate them into groups and dry-mount them in an album. That's the only way they'll stay flat and keep from getting cracked and soiled, or lost altogether. And it will be easy to find just the pictures you want, without going clear through the deck, after you get them in an album."

"Let's see that picture I took of you at the summit of Mount Robson. It always reminds me of a crowded trolley car."

"Why?"

"Because you're climbing over ten thousand feet."



THE LOOSE LEAF ALBUM

AMATEURS who have had several years experience in picture making appreciate, more keenly than beginners can, the importance of keeping prints of every subject of interest that they photograph. They have discovered that the pictures they make are something more than pictorial records, for in these pictures they find the master keys which unlock a wealth of memories of the bygone days.

All who possess pictures of the home of their childhood cherish them for the sentiments they awaken. All who have made vacation pictures know that these photographs never fail to recall the scenes and incidents that made the hours of leisure enjoyable. The fact is that almost every picture, whether pictorially excellent or

commonplace, brings back memories of the time when it was made, and is, therefore, worth preserving.

Aside from framing and hanging pictures, the surest way of keeping them where they will be protected against loss and injury, and will be available when wanted, is by mounting them in albums.

The first albums were made with the leaves rigidly fastened between the covers. This style is still manufactured, but most amateurs prefer the loose leaf album, which is made in many sizes and finishes.

It is, of course, easier to mount prints, just the way one wishes, on a detached leaf than in a bound book, and it is a great convenience to be able to remove a leaf, should it become torn or soiled, and then put another in its place. The



ALBUM RECORDS OF CHILDHOOD DAYS

pictures can be taken off the discarded leaf and mounted on another.

The loose leaf makes it possible to keep pictures arranged in groups, according to subject (landscapes, portraits, etc.) without having blank leaves between the groups, for as soon as new pictures are made, the leaves on which they are mounted can be inserted in the desired places in the album. As extra leaves can be obtained for all the loose leaf albums made by the Canadian Kodak Company the contents of these albums can be increased, reduced or rearranged whenever desired.

An album of photographs is a thing to be treasured. It is rich in reminiscences and it will call these to mind more quickly than any written record can.



WHEN YOUR KODAKERY SUBSCRIPTION EXPIRES

LETTERS are constantly being received from readers who are anxious not to miss a single copy of KODAKERY, asking when their subscription expires.

The expiration date is always printed on the envelope in which KODAKERY is mailed. This date is represented by a letter which indicates the month. For instance, should the letter be "A" it would mean that the subscription expires the first month of the year (January). The letter "D" would mean that the fourth month (April) is the month of expiration. By observing the letter at the time KODAKERY is received you will always be reminded of the date when your subscription will expire.



THROUGH ANCIENT ARCHES
Made with a Premo

JIMMIE DRAWS A BLANK

JIMMIE HATCH had shown his father many excellent pictures, made with the Brownie he had received as a birthday gift a few months before. Mr. Hatch was a good judge of pictures. He had made dozens of them with his own Kodak.

The boy was getting the benefit of his father's experience now—the elder Hatch had many valuable suggestions to offer as he examined the contents of Jimmie's book.

"Well, son, these pictures are fine. It's hard to get anything but good pictures with as simple a camera as a Brownie, but now that I've given you a few extra pointers you ought to get still better results. I wonder if there's anything else I could tell you that would help."

"Here's something I want to ask you about," Jimmie answered as he held up two films. "Are they under-exposed or over-exposed?"

Mr. Hatch took them and laughed. "They aren't exposed at all. See, they're perfectly transparent. They never saw daylight. I wonder what happened to them?" Jimmie's father was plainly puzzled. "Did you ever turn a film past one number and on to the next, and miss an exposure that way?"

"No, I never did that. Anyway I wouldn't be likely to skip two numbers, and the finisher said those two blank negatives were together on the roll. Then I found out I was short two pictures. They were supposed to be pictures of a band. The band came marching

down the street and when it stopped I made two exposures quick."

"You mean you thought you made two exposures," Mr. Hatch corrected. "It's a mystery to me, though. Let's see the camera."

"It's empty," Jimmie explained as he handed the Brownie to his father.

Mr. Hatch clicked the shutter several times. "For the first snapshot you move the lever in one direction, and for the second you move it in the opposite direction. That's certainly simple. Perhaps you didn't move it far enough to trip the shutter. There wouldn't be any exposure then, would there?"

"No there wouldn't. That might explain one vacant film but



FIG. 1



FIG. 2

how about the other one?" Jimmie wanted to know.

Mr. Hatch was puzzled again. Suddenly he got it. "Here's what probably happened. You moved the lever part way across, we'll say you moved it up, or toward the left, but you didn't push it far enough to click the shutter (see Fig. 1). You thought you had recorded the view, but you hadn't. Then you turned another film into place. For the next picture you moved the lever back again (see Fig. 2). But of course that didn't make an exposure either, because the shutter wasn't released the first time."

Jimmie reached for his Brownie. "Let me try it," he said, then after a moment's experiment, "I guess that's what happened."

"That's the trouble, all right.

You must always move the lever as far as it will go. If it's at the bottom of the slot (Fig. 2) you must move it all the way to the top (Fig. 3) and vice versa. Most of the movement is used in setting the shutter—it is only toward the end of the motion that the shutter is tripped. If the movement isn't complete the shutter isn't released, then, if you press the lever back again the shutter is simply un-set. That accounts for both of your empty films."

"It's like a double action revolver," continued Mr. Hatch. "Two-thirds of the trigger pull is to get the hammer back—the other third of the pull releases the hammer and fires the gun. If you draw the trigger back only part way nothing happens. The Brownie trigger acts about the same, doesn't it?"



FIG. 3

"Seems to," agreed Jimmie.

"And with either the gun or the camera the more careful you are to press the trigger with an easy, steady motion, the better your aim will be."

Jimmie saw a new possibility. "Maybe I ought to have a double action revolver to practice with."

"Don't you think it would be safer to shoot films for a while before you try bullets?"

"Oh, I could use blanks," Jimmie explained.

Mr. Hatch laughed. "You might as well use blanks in your Brownie, too, if you forget to move the lever the whole distance."



CARE OF FILTERS

THE Kodak and the Wratten Filters that are designed for use on hand cameras are mounted in metal cells which have flanges that hold them in position in front of the lens. They are made of colored gelatine which is cemented between two pieces of glass.

When a filter is used the light that makes the picture passes through both the filter and the lens, and it is, therefore, just as important to keep the filter clean as it is to keep the lens clean, for dust or finger marks, on either the filter or the lens, will impair the brilliancy of the picture.

Filters should receive the same care as lenses. When not in use they should be kept in a dry place where dust cannot settle, and as filters, like lenses, become foggy on prolonged exposure to the atmosphere, they should be cleaned occasionally.

The safest way to do this is by the method recommended for cleaning lenses (see page 9).

A filter should never be washed with water, because if water comes in contact with the gelatine at

the edges of the filter (inside the metal cell) it will cause the gelatine to swell and separate the glasses. This will ruin the filter.

Excessive heat is injurious to filters, as it softens the balsam with which they are cemented, and it also causes the gelatine to contract. While it is only in intensely hot climates that injury from heat is apt to occur, it is, nevertheless, a wise precaution not to let the sun shine on a filter any longer than is necessary on very hot days.

A filter should not be carried loose in the pocket. It should be carried wrapped in a clean handkerchief, if the box in which it was purchased is not available.

By giving filters the same care that should be bestowed on lenses they will remain in perfect condition indefinitely.



With a Vest Pocket Kodak Tripod Adapter, the Vest Pocket Kodak can be attached to any tripod for making time exposures.



TROUBLED WATERS

Made with a Premo

TRAY OR TANK

TANK development is simple and its results are certain, because they depend solely on conditions which anyone can control. Tray development is not so simple and its results are not so certain because they are influenced by conditions which cannot readily be controlled.

The photographer who develops negatives in the tray must do so in a room that, when the dark-room lamp is extinguished, is totally dark. If any light, other than that coming from a safe dark-room lamp enters the room while the negatives are being handled, at any time before they are in the fixing bath, the negatives will be fogged. A slightly fogged negative cannot yield as good a print as one that is

free from fog, while a badly fogged negative is worthless.

In order to be sure of obtaining correctly developed negatives by tray development it is necessary (1) always to use the same kind of developer, (2) always to have the developer at the same temperature, (3) to use a dark-room light that is always of the same brilliancy, and (4) to be able to accurately judge, from acquired experience in developing negatives, when to stop development.

In tray development these four factors *must* be kept constant in order to insure correct development. The first two we have mentioned can easily be kept from varying, but it is practically impossible for the amateur

photographer to keep the other two factors constant.

In the tank development of roll films no dark-room is needed. The entire process can be performed in full daylight. When Eastman Film Tank Developer Powders are used in an Eastman film tank there are but two factors to consider: These are (1) the temperature of the developer, and (2) the length of time to develop.

Since any amateur photographer, whether experienced or inexperienced in the development of negatives, and whether he develops negatives daily or only at rare intervals, can easily keep these two factors constant, he can, if he uses an Eastman film tank and carefully follows the instructions that are furnished with the tank, obtain correctly developed negatives every time.



MAKING WHITE MARGIN PRINTS

WHITE margins on a black and white print serve as a frame for the picture and give it a finished appearance that would otherwise be lacking.

These margins are obtained by printing through the opening of an opaque mask. The mask is placed in contact with the negative in a printing frame and so adjusted that as much or as little of the negative can be seen through the opening in the mask.

Printing masks can be made from opaque paper, but those who have made them realize the difficulty of cutting openings that will have exact right angle corners.

Nearly all the pictures we make can be improved by a judicious trimming of the margins, but when we make white margin prints we must do the trimming by masking the margins, and in order to secure the most pleasing effects, it is usually necessary to

cut a different mask for every negative.

By using a Kodak Auto-Mask Printing Frame we can make white margin prints without having to cut masks. This frame contains two stationary and two movable thin metal strips with which a mask, that will fit any film negative from the Vest Pocket to the 3A or 4x5 size, can be instantly arranged. This is done by placing one end and one side of the film under the stationary strips, which hold the negative securely in position, and then sliding the movable strips along the rods on the outside of the frame until a mask of the size and shape that are wanted is obtained.

By this method of making a negative we can quickly adjust a mask for each negative and can make white margin prints that will include as much or as little as is wanted of what is within the picture area of the negative.



MEDITATION

*Made with a 2C Kodak Junior,
by F. Ellison*

SERVICE DEPARTMENT TALKS

CRITICISING NEGATIVES AND PRINTS

ARE you satisfied with the prints you made from the negatives that you developed yourself? If not, send us both the negatives and prints for criticism.

By examining the negatives we can tell you whether they were correctly or incorrectly exposed, and also whether they were correctly or incorrectly developed.

By comparing the prints with the negatives we can tell you whether the prints are as good as you should have obtained from the negatives.

Both negatives and prints will be returned.

For any assistance we may be able to render you there will be no charge.



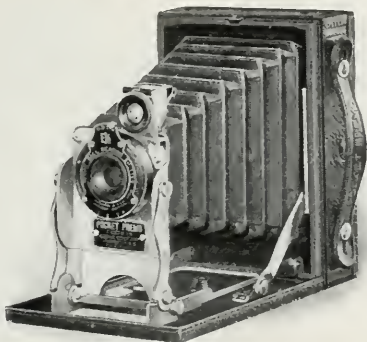
Address all communications

SERVICE DEPARTMENT, CANADIAN KODAK CO., LIMITED,
TORONTO, CANADA.

The POCKET PREMO

for Pictures

2¼ x 3¼



THE Pocket Premo is a real pocket camera sturdily built for practical, every day picture-making and instantly ready for action.

Simply press a spring and pull down the front, the lens automatically locks at correct focus ready for picture taking.

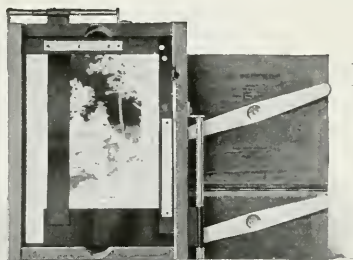
The Pocket Premo loads in daylight with a Premo Film Pack of twelve exposures—the simplest and quickest method of loading that hand photography knows.

Has Kodak Ball Bearing Shutter and meniscus achromatic lens, is covered with real leather, all metal parts heavily nickeled.

It looks well, it wears well—and, most important of all, it makes sharp, clear pictures.

Premo catalogue free at your dealer's or by mail

Canadian Kodak Co., Limited
TORONTO, CANADA.



Kodak Auto-Mask Printing Frame

Price \$1.50

THE mask of thin metal built in the frame itself, may be instantly adjusted to fit any of the amateur size negatives. The correct relation between negative and paper once fixed may be maintained for any number of prints without readjustment.

Maskit Printing Frame

PRICE

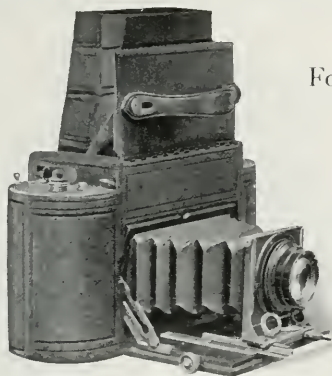
3¼ x 4¼	\$0.65
3¼ x 5½70
5 x 785



THE Maskit Printing Frame successfully overcomes the difficulty of negative and mask slipping on the glass and expedites the making of prints with uniform white margin.

CANADIAN KODAK CO., LIMITED
TORONTO, CANADA.

At your dealer's



For Pictures
 $2\frac{1}{2} \times 4\frac{1}{4}$

The 1A GRAFLEX

Autographic

THE CAMERA OF EFFICIENCY

THE REFLECTING MIRROR shows the subject before you right side up and in the same size as the finished print.

DIRECT FOCUSING. The image on the ground glass is correctly focused by a turn of the focusing button and is controlled to the moment of exposure.

THE FOCAL PLANE SHUTTER operates close to the face of the film and passes more light in a given time than any other style of shutter. Adjusted for time exposures and automatic exposures from $\frac{1}{10}$ to $\frac{1}{1000}$ of a second.

F.4. 5 KODAK ANASTIGMAT LENS, $5\frac{1}{2}$ inch focus, has remarkable definition and ample reserve power for unusual pictures under difficult light conditions.

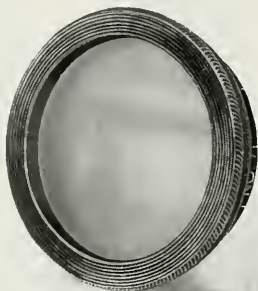
ROLL FILM CONVENIENCE takes Kodak Roll Film—6 or 12 exposures.

COMPACTNESS. The hood telescopes and the bellows folds.

and it's Autographic.

Graflex catalogue free at your Dealer's or by mail

Canadian Kodak Co., Limited
TORONTO, CANADA.



KODAK COLOR FILTERS for out-door photography darken the rendering of blue and lighten the rendering of yellow so that the relative brightness of these two colors in the picture is approximately as the eye saw them.

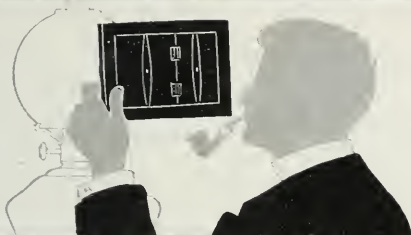
PRICES

75c. to \$1.50

according to size

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Prints by Gaslight

“Make the prints on

VELOX

Tell your finisher that.

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The KODAK ANASTIGMATS

f.7.7 f.6.3 and f.4.5

THE *esprit de corps* of the Kodak Lens factory where Kodak Anastigmats are fashioned, logically results from the common pride of skilled workmen in exacting craftsmanship.

CANADIAN KODAK CO., LIMITED
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KODAKERY

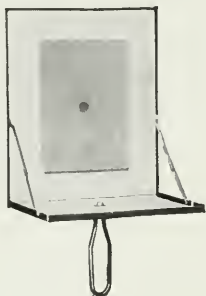
A
MAGAZINE *for* AMATEUR
PHOTOGRAPHERS



DECEMBER 1921



CANADIAN KODAK CO., LIMITED.
TORONTO, CANADA.



For
Flashlights

EASTMAN FLASH SHEETS
and the
KODAK FLASH SHEET HOLDER

The Flash Sheets give a broad, soft light well adapted for general flashlight work, and particularly desirable for portraiture. And there's the added touch of convenience in their use with the Kodak Flash Sheet Holder.

PRICES

Eastman Flash Sheets No. 1, 3x4 per package of 6 sheets.....	\$0.35
Eastman Flash Sheets No. 2, 4x5 per package of 6 sheets....	.56
Eastman Flash Sheets No. 3, 5x7 per package of 6 sheets....	.84
Kodak Flash Sheet Holder.....	1.50

CANADIAN KODAK CO., LIMITED
TORONTO, CANADA.

FOR BETTER PICTURES

Your old Kodak can now be equipped with
Kodak Anastigmat *f.7.7* lens
on an exchange basis

THE Kodak Anastigmat *f.7.7* lens gives to every exposed part of the negative the crisp sharpness which is requisite to clean-cut prints and enlargements. At its indicated speed, on the camera to which it is fitted, the Kodak Anastigmat is at least the equal of any other anastigmat—regardless of price.

Now, for the first time, we are able to improve equipment already purchased by substituting the Kodak Anastigmat *f.7.7* lens for the lens originally fitted to the instrument. This exchange can be made on any Kodak equipped with Kodak Ball Bearing Shutter; or on any Premo equipped with Kodak Ball Bearing Shutter except as noted below.

Take your camera to your dealer and he will send it to Toronto where the actual exchange must be made.

The old lens remains with us and we return the instrument, fitted with your new sharp-cutting Kodak Anastigmat *f.7.7* lens, ready for better pictures.

COST OF THIS EXCHANGE

Kodaks or Premos equipped with single lens and Kodak Ball Bearing Shutter	\$12.00
Kodaks or Premos equipped with R. R. lens and Kodak Ball Bearing Shutter	10.00
Cameras with T.B.I. shutters will be fitted as above at an <i>additional</i> charge of \$6.00 for replacing T.B.I. shutter with Kodak Ball Bearing Shutter.	

NOTE -The *f.7.7* lens cannot be fitted to these Premos:
*Pocket Premo, 5 x 7 size of Premos Nos. 8 and 9,
Premo No. 10, Folding Cartridge Premos.*

CANADIAN KODAK CO., LIMITED

TORONTO, CANADA.



FIG. 1

Made by Daylight; exposure, 4 sec.; stop, 32



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DECEMBER, 1921

No. 2

THE CHRISTMAS TREE

As a subject for the camera the Christmas tree differs from most other things that we photograph because, being an evergreen, the tree will photograph in a dark tone and as it is photographed indoors it must sometimes be placed where it cannot be well lighted by the daylight that enters the room. Since the tree will appear dark in the picture the ground behind it should be of a color that will photograph white or gray, so that the picture will show the tree outlined against the background. Any wall or any curtain that is not of a dark tone, or orange or red in color, will photograph either white or gray, and when necessary, a suitable ground can always be obtained by hanging bed sheets or curtains or blankets behind the tree. When the background is suitable it will not matter where the tree is placed, for it can then be successfully photographed, both in the daytime and at night. At night the pictures can be made by flashlight, and in the daytime they can be made either by daylight or by

flashlight, or by daylight combined with flashlight.

The diagram shows the arrangement of the room in which Figs. 1 and 2 of our illustrations were made. The camera and the 3 x 5 ft. white cloth reflector remained in the same positions for both pictures. The photographs were made at nine o'clock on Christmas morning. The tree stood directly

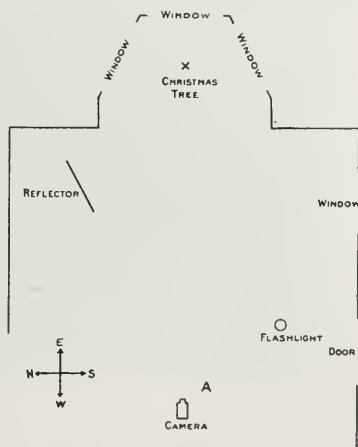


Diagram of Room in which Figs. 1 and 2 were made.



FIG. 2

*Made by Daylight combined with Flashlight; one No. 2 Eastman
Flash Sheet ignited ten feet from tree; stop, 16*



FIG. 3

*Made at Night by Flashlight; one No. 3 Eastman Flash Sheet
ignited ten feet from tree; stop, f.11*

in front of an east window. The sun was shining brightly, but a tall building, fifty feet away, prevented its rays from reaching either of the windows that were beside and behind the tree.

The lace curtains that covered the windows were left in place, but the shades underneath these curtains were run up so that the daylight could enter the room through the entire area of each window.

Fig. 1 was made solely by the light that came through the three bay windows and the window which the diagram shows on the south side of the room. As this south window was about eight feet from the tree, and was shaded by a porch roof, the light that reached the tree from this window was comparatively weak. The front of the tree, that is, the side of it which faced the lens, was illuminated solely by the light from this south window and by the light which the reflector reflected to it.

After Fig. 1 was made, no shade or curtain or anything else in the room was disturbed. The lens was stopped down to 16, and, as soon as the shutter had been opened on "B" (bulb), an Eastman Flash Sheet No. 2, held about five feet above the floor and ten feet from the tree, was ignited. The shutter was then immediately closed, by releasing pressure on the push pin of the cable release. An attendant stood at point A (See diagram) and held a sheet of cardboard, about eighteen inches square, in such a position that the light of the flash could not enter the lens. The result is shown in Fig. 2. This picture was, there-

fore, made partly by the daylight that reached the film while the shutter remained open (not more than two seconds) and partly by flashlight.

By comparing Fig. 2 with Fig. 1, it will be observed that the flashlight amply illuminated the front of the tree, while the daylight did not.

Fig. 3 was made at night. The light that made the picture was furnished by a No. 3 Eastman Flash Sheet, which was ignited in a Kodak Flash Sheet Holder. This was held about five feet above the floor and about two feet to the left of the camera, which was ten feet from the tree. No reflector was used.

No matter where the Christmas tree is placed, whether in a well lighted or in a poorly lighted spot, it can always be photographed by one of the three methods we have described; that is by daylight, by flashlight, or by a combination of daylight and flashlight.

When using flashlight you must remember that all flashlight preparations are inflammable and they must be handled carefully. Be sure to observe all the precautions that the manufacturers recommend in the instructions that are furnished with flash goods. Flashlight preparations must never be ignited close to curtains or draperies and the flash must never be closer than three feet to a wall or ceiling.



Never oil your shutter. Never take it apart. The only care it needs is protection against dust, moisture and physical injury.



CHARMED ATTENTION

Made with a 4 x 5 R. B. Tele. Graflex, by A. G. Hill

FOGGING NEGATIVES BETWEEN DEVELOPING AND FIXING.

THE film that makes the picture is so sensitive to light that it must be protected from all actinic light but that which enters the lens at the time the exposure is made.

Notwithstanding this fact, picture making with the Kodak is daylight all the way. The roll film that is used in Kodaks and Brownies can be placed in the camera in daylight, removed in daylight, and can be developed

and fixed in the light of an ordinary room, or even outdoors in the subdued light that is found under wide-spreading trees.

Kodak roll film is protected from light before exposure by being wound on a spool, under light-proof paper. As it passes through the camera it is wound on another spool, under the same light-proof paper. After this spool is removed from the Kodak it is placed in the changing box, which

is furnished with the Kodak Film Tank, and the film is transferred from the spool to a reel, under the folds of an apron, in which it remains during development in the light-tight tank.

As soon as the film is developed the developer is poured off and the tank is filled with three or more changes of water. After three changes of water the film will be free from developer, if it is left in each change of water for a few minutes. It may then be removed from the apron, in subdued daylight, and placed in the fixing bath.

It is at just this stage, between developing and fixing, that some photographers, who are impatient

to see results, remove the film from the apron, after a brief rinsing instead of after three washings, hold it up to the light and examine every negative.

The risk involved in this practice becomes apparent when we remember that if any trace of developer is left in the films they will become fogged on exposure to white light. A fogged negative cannot make a good print.

The little patience that is needed between developing and fixing will be rewarded with negatives that are free from fog, and such negatives are the only kind from which brilliant prints, brilliant enlargements and brilliant lantern slides can be made.



MATES

Made with a 3 $\frac{1}{4}$ x 4 $\frac{1}{4}$ Graflex. by E. J. Brown



NOTRE DAME, PARIS

Made with a 3A Kodak; 1 second exposure; stop 32



EARLY SNOW IN HAMPSTEAD, ENGLAND
Made with a 2C Kodak

MAGNESIUM RIBBON

PHOTOGRAPHIC films, plates and development papers are extremely sensitive to the light that is obtained by burning metallic magnesium. This is due both to the brilliancy of the light and to the colors of which it is composed.

Magnesium powder is the light-producing ingredient in many flash light preparations, and magnesium ribbon furnishes a light that is especially well adapted for various kinds of photographic work.

Magnesium ribbon is often used for lighting pictures and other objects that are to be photographed where they cannot be satisfactorily illuminated with daylight. When interiors are photographed by daylight the ribbon can be used for illuminating parts of rooms that are only faintly lighted by daylight.

Because of the quality of the light it gives and the fact that a short or long exposure can be made—depending on how much ribbon is burned—some workers prefer magnesium ribbon light to any other light for printing Velox and other development papers.

Negatives which are so dense that it may take from one to several minutes to print them by any of the lamps that are available, can be printed in a few seconds by exposure to magnesium ribbon light.

The actinic brilliancy of this light may be judged from the fact that with one-half inch of the ribbon that is supplied with the Kodak Magnesium Ribbon Holder, ignited at a distance of fifteen inches from the printing frame, the writer has always obtained fully

timed prints on Regular Velox from tank developed negatives.

The Kodak Magnesium Ribbon Holder is a small metal case which contains a compartment for storing a long coil of ribbon. A section of the ribbon can be drawn out of the holder by a movement of the thumb, which rotates a wooden wheel over which the ribbon passes. A gauge is placed at the open end of the holder for measuring the length of ribbon that is to be used.

Magnesium ribbon can be ignited with a match, but the most convenient way is to ignite it by holding it in the flame of the small alcohol lamp that is made expressly for the purpose.

As magnesium ribbon is not explosive and will only burn when freely exposed to the air, the flame is automatically extinguished as soon as the strip of ribbon that projects from the holder has burned.

Prolonged exposures can be made by feeding the ribbon from the holder while it is burning, and any exposure can be instantly terminated by rotating the wheel backward, thus drawing the ribbon back into the holder.

Both the Kodak Magnesium Ribbon Holder and the alcohol lamp can be obtained through Kodak dealers.



HAYING TIME

Made with a Kodak, by Edith S. Watson



ON AN ENGLISH BY-STREET
Made with a No. 1 Kodak Junior

HOW MANY FEET IN A FOOTSTEP ?

THE timber cruiser goes through the forest and estimates the height and thickness of each tree that is big enough to saw. His "guesses" are surprisingly close to the facts. Long years of experience make it easy for him to estimate distances accurately.

Not everyone, however, has the yardstick eye.

If some of your negatives are out of focus the reason may be that the distance from the subject to your camera differed from the figure on the focusing scale at which you set the focusing indicator.



PORTO FINO. ITALIAN RIVIERA

Made with a 3A Kodak

The only way to be absolutely sure how far an object is from the camera is by measuring, and the simplest way to do this is by "pacing off." Measuring by pacing is accurate enough for all ordinary purposes.

When "pacing off" distances, however, you should know how long your step is, or the result may be no better than a guess.

Witness the case of Shorty Lee who got through four years of quarter-backing with only a few bruises and broken bones, but found himself in trouble the first time he appeared as a foot-ball referee.

One of the teams was off-side and Shorty penalized it five yards.

He stepped off five paces and placed the ball on the turf for play. But the captain of the opposing eleven objected and said that Shorty Lee's five paces hadn't covered more than four yards.

The head linesman measured up the distance and discovered that Shorty was short of step as well as of stature. Thereafter when Shorty Lee imposed a penalty he had to do some swift calculating to translate paces into yards and feet.

Measure your pace and remember it. Then when you pace distances and set the focusing indicator on your camera accordingly, you can feel sure that the focus is the right one for securing a sharp negative.



AN EXPECTANT MOMENT
Made with a 3A Kodak

FIXING NEGATIVES

IRREGULAR patches of brown stains that do not appear in negatives until some weeks or months after they were developed are caused by insufficient fixing.

A fixing bath that has been used until it has become exhausted will cause insufficient fixing. This trouble is, however, more often due either to not keeping the negatives separated, so that the bath can have free access to the emulsion, or to removing them from the bath too soon after they

become clear, that is, after the creamy color has disappeared.

In the fixing process hyposulphite of soda, commonly called hypo, combines with the silver bromide in the emulsion and forms an invisible salt which water cannot wash out. But as this salt is readily soluble in the hypo which helps to form it, it can be gotten rid of by simply leaving the negatives in the fixing bath until the hypo has dissolved the salt.

The length of time it takes to

do this depends on the condition of the fixing bath. A freshly prepared acid fixing bath will clear negatives inside of five minutes, and, it will then remove this invisible salt during the next five minutes. The negatives will thus be thoroughly fixed if they are kept separated. A bath that has been used several times will, of course, work slower than a fresh one, and it is a wise practice to leave negatives in a used bath fully twice the length of time it takes to clear them.

Any fixing bath which will not clear negatives inside of fifteen minutes is worthless.

An acid fixing bath is recommended in preference to one that contains nothing but hypo and water. The plain hypo bath does not harden the gelatine coating on films and plates, and it must be discarded after it has been once used. An acid fixing bath does harden the gelatine and it can be used several times.

The fixing bath must be rightly prepared to insure the right chemical reactions taking place. For this reason we recommend the Kodak Acid Fixing Powders and also the fixing bath that is made up by dissolving 1 pound of hypo in 64 ounces of water and then adding 4 ounces of Velox Liquid Hardener. Those who prefer to make up fixing baths by weighing out the various chemicals should be sure to use the exact quantity of the necessary chemi-

cals and dissolve these in the exact order that is recommended in the published formulae.

When an acid fixing bath works too slowly it should *always* be thrown away. Strengthening a weak bath by adding hypo is extravagance instead of economy, because the resulting chemical combinations are always wrong. The acid fixing bath is so cheap and gives such long service that it is folly to risk spoiling negatives in an unsuitable bath.

When negatives are thoroughly fixed and then thoroughly washed they will keep in perfect condition indefinitely.



*Made with a 3A Special Kodak,
by J. A. Willard*

WHO has not longed for a hand camera that would, with a single exposure, record almost as much of a distant landscape view as the eyes can see?

To make such pictures by giving a single exposure with a camera of

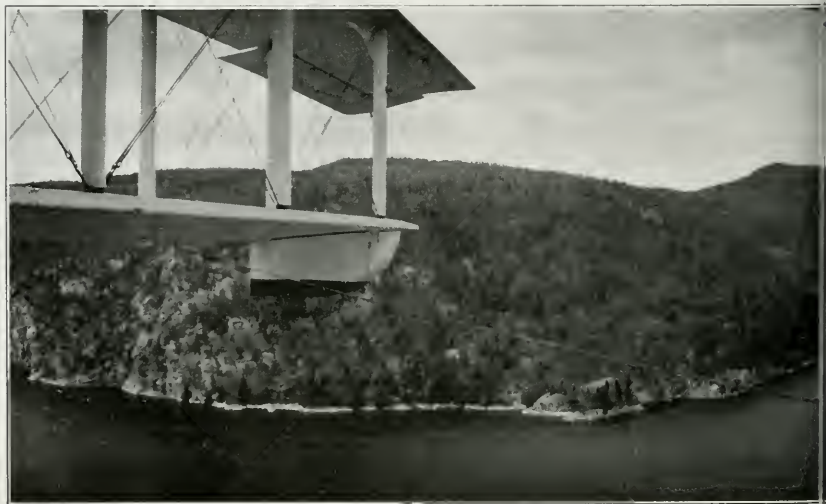
P A N O

the regular type is impossible, and to make it with several exposures is impractical. Such pictures can, however, be made with a Panoram

ILLUS.
No. 4
KODAK
Mr. Ho



Picture above taken above Lachine on the St. Lawrence, showing Boat Club



A M A S

WITH
AM
ES BY
COFFIN

Kodak, by merely pressing a button.

The work that this camera does is shown by our illustrations,

which were reproduced from No. 4 Panoram Kodak pictures that were made by Mr. Howard Coffin of Detroit.

The upper picture shown below was made from a pier. The upper
(continued on following page)



re below taken over Lake George from Seaplane shown on left



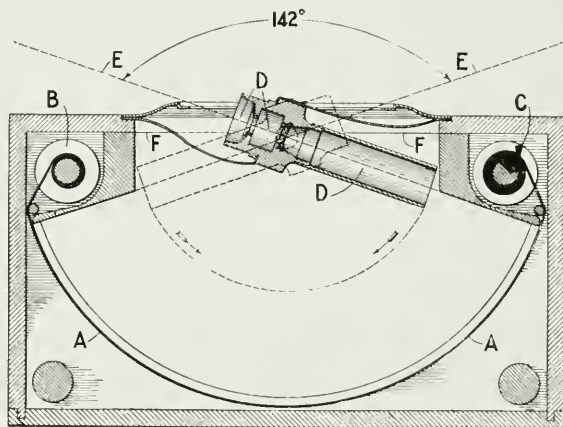


Diagram illustrating Mechanism of No. 4 Panoram Kodak

one on page 20 was made from a speed boat that was rushing through the water at a speed of about 50 miles per hour, and the other picture was made from a seaplane (a part of which is shown in each picture) when it was traveling at a speed that ranged from 80 to 90 miles per hour.

The picture of the water front, on pages 16 and 17, shows how effectively the Panoram Kodak records the relative positions of widely separated objects on the landscape. Had a camera of the type that is used for all-around outdoor work, fitted with a lens of the same focal length as the one on the Panoram, been placed at the same viewpoint as the Panoram Kodak was, it would have recorded only about 1/3 of what this picture shows.

The pictures that Mr. Coffin made with a Panoram Kodak from the seaplane direct attention to a

branch of photography that the amateur will eagerly explore when aviation becomes a popular pastime. The remarkable thing about these pictures, from a photographic viewpoint, is, not so much the splendid records, as the fact that such records can easily be made by anyone with so simple a hand camera as the Panoram Kodak.

There are, of course, cameras designed primarily for aerial photography that successfully do the work for which they are intended. Pictures of such scope as the ones we are reproducing, however, are the exclusive domain of the Panoram Kodak. They could be duplicated by no other type of camera.

To make clear how the things we have mentioned can be done with a light weight hand camera we will refer to the diagram on this page in describing the special features of the Panoram Kodak.

The curved line A represents the film, a section of which is reeled from the film spool B to the spool C after each exposure. The exposure is made by pressing a button, which causes the tube D, in which the lens is mounted, to describe a half circle as it swings on its axis while the film is being exposed. All of the film that lies in the focal plane is not exposed at the same instant, but it is exposed in sections as the tube D rapidly swings from right to left, or vice versa.

The diagram shows the positions the lens tube occupies near the beginning and near the end of the exposure period, and the dotted lines E show that by this method of construction a narrow angle lens, which makes larger images of objects than a wide angle lens can make from the same point of view, is thus enabled to make pictures

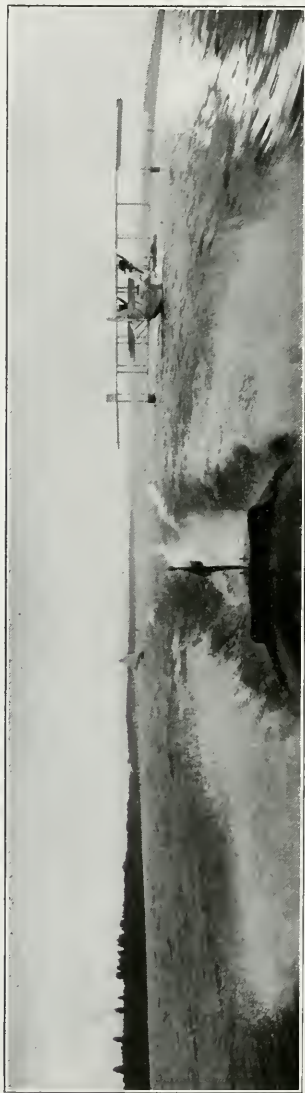
that embrace an enormous angle within the field of view. The No. 1 Panoram Kodak, which makes $2\frac{1}{4} \times 7$ pictures, embraces a field of 112 degrees and the No. 4, which makes $3\frac{1}{2} \times 12$ pictures, a field of 142 degrees.

When the tube has swung to its limit of movement, from right to left, or from left to right, it lies parallel with the line F, and when it is at this position it is impossible for any light to pass through the lens and reach the film.

It will be noted that the focal plane, where the film lies (A in diagram), has a curved instead of a flat field. This is one of the features that enables the Panoram Kodak to do what ordinary cameras cannot do. But this feature renders the camera unsuitable for making landscape pictures at *short range*, of subjects which show long, straight lines extending horizontal-



STREET SCENE IN FREBECOURT, FRANCE
Made with a Kodak, by Paul Cherry



Taken from Speed Boat going 50 miles per hour. Stern of Speed Boat shown in middle of picture



*A Homing Flight at Sunset above junction of St. Charles and St. Lawrence Rivers
Taken from Seaplane, wing of which shows at right*

ly across the field of view. In short range work all of these straight lines, except the one that passes through the center of the picture, will be rendered as curves.

This difficulty in short range work can, however, always be largely, and sometimes wholly, overcome by making the picture from a point of view that will make such lines extend across the field at an angle of from 45 to 90 degrees. The fence and pier shown in Mr. Coffin's picture of the water front show how easily such problems can be handled.

In distant landscape work it rarely happens that long straight lines extend horizontally across the field of view, and if any such lines do exist they will, owing to their distance from the camera, be rendered so nearly straight that the eye can seldom detect any curvature.

Panoram Kodaks are splendidly adapted for making short range pictures of groups, for the photographer can, by placing a large group of people on a curved line, secure a picture which renders the curve as a straight line. The way to do this successfully is to fasten one end of a long cord to a stick that is driven in the ground at the position from which the picture is to be made, and with the other end draw a curve along which the group is to be arranged. If the group is so large that all the members cannot be placed in a single line, two or more lines can be formed along the curve.

As every part of such a curve that the lens faces, as it swings on its axis, will be the same distance



*Made with a Graflex, by
Tomejiro Shimizu*

from the lens, the curve will be rendered as a straight line in the picture, with the result that the picture will accurately record the relative sizes of all the persons in any one line.

With all its advantages in landscape and group photography, it must not be supposed that the Panoram Kodak can do all that regular Kodaks can. Regular Kodaks are adapted for a wide range of work. They are general all-round cameras. The Panoram is adapted for a limited range of work. It is a specialist and as such it excels other Kodaks only in its special field, but in this field it stands without a rival among hand cameras.



Subject too close to the camera for a broadside view

PHOTOGRAPHING MOVING OBJECTS WITH A BROWNIE

WHEN Mr. Hatch sent Jimmie a Brownie camera for a birthday gift he knew he had selected something that would please the boy more than almost anything else. Mr. Hatch had a Kodak with which he kept records of his own experiences, so he was very much interested in the Brownie album that Jimmie brought home with him from boarding school.

"These kids and this pony live right near school," said Jimmie as he turned the pages to three prints that showed a boy and a girl in a cart drawn by a Shetland pony. "The bottom picture is the best, and I know why, too."

"It's easy to see why, isn't it? But perhaps you'd better explain it to me anyway," Mr. Hatch suggested.

"Well, that first one I took from the side, just as the rig was passing the camera. Guess that's why it's so blurred."

"Yes, but that's not the only reason. You were much too close to your subject for taking a broadside view. If you are quite close to an object that is in motion the image of that object will move far enough on the film during the exposure to blur the picture. Lucky you took more than one. Did you realize your mistake after the first one?"

"It wasn't just exactly that, dad. You see the little girl wanted a picture that showed her driving the pony, so I took one. You know how girls are," explained the fourteen-year-old bachelor. "Took the second one from the front, with the pony headed directly toward the Brownie."



A front view of a moving pony is seldom satisfactory

“The picture doesn’t show that the girl was driving and it doesn’t show the outfit off very well, either. It’s too much of a front view. But how about this third one? You haven’t explained how you got this and it’s the best of the lot. If you

made the second picture because the little girl wanted you to, how did you come to make the third one?”

“Oh, I just happened to.” Jimmie answered.

“Probably the little girl just



A diagonal view is best for most moving objects

happened to want another," was Mr. Hatch's explanation. "This is the best of the lot; now tell me why it's the best."

"Because I stood partly in front and partly at the side and got a three-quarters view."

"Exactly," said Jimmie's father. "That's most always the best way to take a picture of a moving object. The camera should be neither directly in front nor directly at the side, but about half way between. That's sure to give you a pleasing view—one that will have the most in it, too, if the subject happens to be a long one, like a railroad train or a circus parade. Suppose a circus parade was coming down the

street and you wanted a picture of it. If you stood at the side and pressed the exposure lever as the first wagon was passing you wouldn't get much of the parade in your picture. And if you stood right in front you'd only get the leaders of the parade. So the best plan would be to stand partly in front and partly at the side, with the camera pointed at an angle to the line of march. Then, if you stand far enough away to see a few hundred feet along the line, you'll get a lot of the parade on one film."

And Jimmie said he'd at least want to get everything from the band wagon to the steam calliope.



"CATCH-AS-CATCH-CAN"

Made with a Premo, by Leopold Zwarg



MEXICO CITY'S COUNTRY CLUB AND GOLF HOUSE
Made with a Kodak, by Sumner W. Matteson

WHEN YOU BUY TWO CAMERAS

THE subscription blank that is bound in the manual furnished with every Eastman hand camera entitles the purchaser of the camera to one year's free subscription to KODAKERY.

If you purchase two cameras in the course of a year and send us, properly filled out, the subscription blanks from both the manuals, each blank will bring you KODAKERY for one year from the date it is received by us; but, unless you notify us that you have purchased two cameras within the year we cannot know this fact and your two subscriptions will overlap. You will receive two copies of some issues but will not receive the magazine for the full two year period. For instance, if you purchased a camera in May, 1921, and promptly sent us the subscription

blank you would receive KODAKERY for one year—until May, 1922, and then, if in September of 1921 you purchased another camera and promptly sent us the subscription blank, this would bring you KODAKERY until September, 1922. Consequently you would receive duplicate copies of the numbers published between September, 1921 and May, 1922. If, however, you notified us of the two purchases at the time you sent in the second blank, and stated the date your first subscription expired, we would extend the date of your second subscription so it would continue for one year from the expiration of the first and, as a consequence, you would receive the benefit of the magazine, free of charge, for a full two year period—that is until May, 1923.

ORDER FILM BY NUMBER

THERE are many models of roll film cameras in use that make negatives of the same size but require film spools of different lengths. This is owing to differences in the styles of the cameras.

Should you order a certain size of film from your dealer, without mentioning the style of camera you are using, he might not know what you need, but if you order by number he will know exactly what to give you. To illustrate: The No. 3 Folding Pocket Kodak, the No. 3 Cartridge Kodak and the No. 3 Brownie all make $3\frac{1}{4} \times 4\frac{1}{4}$ negatives, but they are different styles of cameras and require film spools of different lengths. The film made for one of these cameras will not fit either of the others.

Eastman N. C. Film and Eastman Autographic Film are packed in cartons. A number is placed on the ends of each carton. This number refers to the style and size of camera in which the film can be used.

The $3\frac{1}{4} \times 4\frac{1}{4}$ size of Eastman roll film is listed under four numbers, and is made for use in eight styles of Eastman cameras. Three styles of these cameras use film No. 118, three styles use film No. 124, one style uses film No. 119 and only one style requires film No. A118.

The 3A size of film is listed under three numbers, the 4×5 size under four numbers and some other sizes are also listed under two or more numbers, for cameras of various styles.

The letter A preceding the number on a film carton indicates that the film is autographic. If you are

using an Autographic Kodak, a Kodak fitted with an Autographic Back, or an Autographic Brownie, make sure you order Autographic Film. Autographic records cannot be made on old style film.

Every year has witnessed improvements in Eastman Cameras. Some of these improvements have necessitated changes in the film spools. Since all models of Eastman cameras, from the oldest to the most recent, are in constant use, films must be supplied for all these models.

The number of the film used in any size or style of Eastman roll film camera is printed in large type in the manual that accompanies the camera.

Always order film by number that you may be sure of obtaining the film you need.

CHANGE OF ADDRESS

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If you change your address without notifying us, KODAKERY will not reach you. Requesting the postmaster to forward your mail will not insure your receiving KODAKERY, unless you pay him the postage for forwarding it.

Should you move from one place to another be sure to inform us promptly, giving both your old and new addresses, and also the date when your subscription expires.



THE GARDEN PATH
Made with a 3A Kodak

SERVICE DEPARTMENT TALKS

OILING SHUTTERS

SINCE oil reduces friction in the bearings of watches it may seem that it ought to reduce friction in the bearings of photographic shutters.

If shutters were constructed like watches they would need oil, but they are not so constructed. They are specially designed to work without lubrication, and oil will invariably put them out of order.

Never oil your shutter. Never take it apart. The only care it needs is protection against dust, moisture and physical injury.

Should your shutter get out of order send it to the makers, for they alone possess the knowledge, the skill and the experience that are needed for putting it in perfect condition.



For any information you may desire regarding photographic equipment or processes address

SERVICE DEPARTMENT, CANADIAN KODAK CO., LIMITED
TORONTO, CANADA.

Fit Your Plate Camera for Film

THE Premo Film Pack Adapter enables you to load your plate camera in daylight with the Premo Film Pack—twelve exposures without re-loading.

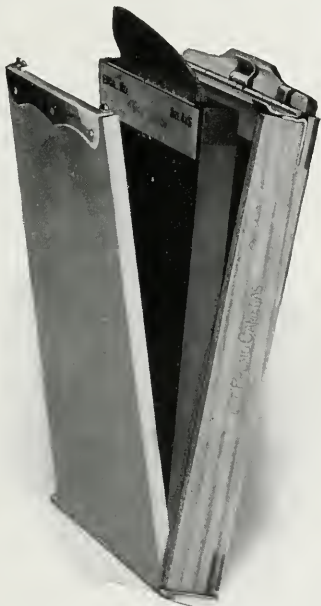
This device slips into and out of the camera just like a plate holder. It is fitted with a dark slide, so that it can be removed from the camera to permit focusing on the ground glass. One or more films can be withdrawn for development without waiting until the entire pack has been exposed.

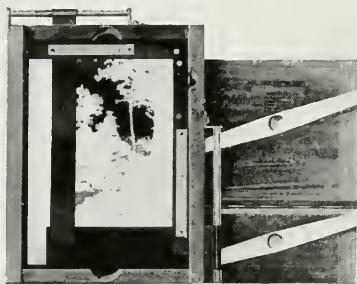
The Adapter, therefore, retains all the advantages of the plate holder, and adds the convenience of daylight-loading with six times as many exposures in the space ordinarily occupied by two plates.

There is a Premo Film Pack Adapter for every camera that will take a Premo Plate Holder. Prices: $2\frac{1}{4} \times 3\frac{1}{4}$ or $3\frac{1}{4} \times 4\frac{1}{4}$ \$1.50; $3 \times 5\frac{1}{4}$, $3\frac{1}{4} \times 5\frac{1}{2}$ or 4×5 , \$2.00; 5×7 , \$3.00.

At Kodak Dealers'

Canadian Kodak Co., Limited
TORONTO, CANADA





KODAK AUTO-MASK PRINTING FRAME

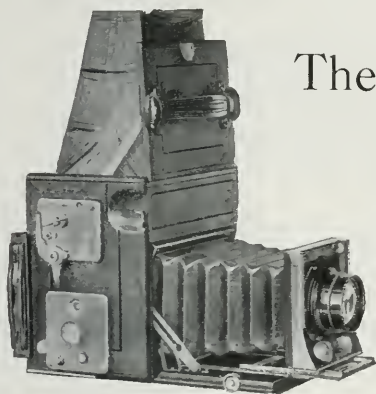
The mask of thin metal is easily adjusted to fit any sized negative up to 4×5 or $3\frac{1}{4} \times 5\frac{1}{2}$ inches. It is built in the frame and when once fixed will remain in proper position without readjustment for duplicate prints or for prints from other negatives of the same size.

The Kodak Auto-Mask is a thoroughly efficient printing frame—your dealer has it.

Price, \$1.50

CANADIAN KODAK CO., LIMITED

TORONTO, CANADA



The $3\frac{1}{4} \times 5\frac{1}{2}$ Compact Graflex

The Compact Graflex combines in a convenient-sized $3\frac{1}{4} \times 5\frac{1}{2}$ camera—

*the reflecting mirror feature,
the focal plane shutter,
the optional use of roll film, film packs, cut film or plates.*

Kodak Anastigmat lens $f. 4.5$, $7\frac{1}{2}$ -inch focal length, gives this camera an optical equipment of wide utility. The focal plane shutter provides instantaneous speeds of $\frac{1}{10}$ to $\frac{1}{1000}$ of a second, and time exposures of any duration desired.

This combination of superior features fits the Compact Graflex not only for speed photography but for all-round use. Indoor portraits, rainy day scenes, pictures of the races—all are easy for the Compact Graflex. And in every case the reflecting mirror facilitates precise focusing and artistic composition. You see the image right side up, full picture size, until the very instant of exposure.

Graflex Catalogue free at your Dealer's or by mail.

CANADIAN KODAK CO., LIMITED

TORONTO, CANADA



Kodak Magnesium Ribbon Holder

THIS simple little device provides a handy and convenient method of burning magnesium ribbon to obtain light for photographic purposes.

The flame goes out automatically when a given length of ribbon burns down to the holder, thus furnishing a convenient standard for timing the exposure of prints on Velox and other developing papers. The apparatus is useful as well for photographing dark interiors, for copying, and for portraiture.

The best method of igniting the ribbon is by means of an alcohol lamp specially constructed for this purpose.

THE PRICE

Kodak Magnesium Ribbon Holder . .	\$0.35
Alcohol Lamp for use with Kodak Magnesium Ribbon Holder35

At your dealer's

CANADIAN KODAK CO., LIMITED

TORONTO, CANADA.



Prints by Gaslight

Finishers who use

VELOX

identify their work with quality.

Specify VELOX
when ordering prints.

CANADIAN KODAK CO., LIMITED
TORONTO, CANADA



ACHIEVEMENT

The production of the Kodak Anastigmat lens is a distinct achievement—not merely in the fact that it is at least the equal of the finest anastigmats made anywhere in the whole world, but in the further fact that through the use of scientific, specialized machinery of the utmost accuracy it is made and sold at a price which is bringing the anastigmat advantages to hundreds of thousands of amateurs who have not hitherto felt that they could afford a lens of the finest quality.

Send for the free booklet "About Lenses". It contains interesting information that you ought to have.


The KODAK
ANASTIGMATS Canadian Kodak Co., Limited
f.7.7 f.6.3 and f.4.5
Toronto, Canada.

KODAKERY

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MAGAZINE *for* AMATEUR
PHOTOGRAPHERS



JANUARY 1922



CANADIAN KODAK CO., LIMITED.
TORONTO, CANADA.

Kodak Metal Tripods

Compared to ordinary tripods, the Kodak Metal are more compact, and the parts are joined together so that they cannot become disconnected or lost—two features which alone make these tripods well worth while.

Price, from \$3.75 up

Kodak Portrait Attachment



“Close-ups” and portraits with detail clearly defined can be secured easily when your camera is equipped with the Kodak Portrait Attachment. It brings the subject into sharp focus at close range.

Price \$0.75

CANADIAN KODAK CO., LIMITED
TORONTO, CANADA

Exchange Your Old Lens for a Kodak Anastigmat *f.7.7*

RECOGNIZED as *at least* the equal, in sharpness of definition and flatness of field, of *any* anastigmat at *any* price, the Kodak Anastigmat Lens *f.7.7* is now for the first time offered separately—on an exchange basis.

Your old lens helps to pay the moderate cost.

Take your camera to your dealer and he will send it to Toronto where the actual exchange must be made. The old lens remains with us and we return the instrument, fitted with your new sharp-cutting Kodak Anastigmat Lens *f.7.7*, ready to make better pictures.

This exchange can be made on any Kodak equipped with Kodak Ball Bearing Shutter. It may also be made on any Premo so equipped except as noted below.

COST OF THIS EXCHANGE

Kodaks or Premos equipped with single lens and
Kodak Ball Bearing Shutter \$12.00

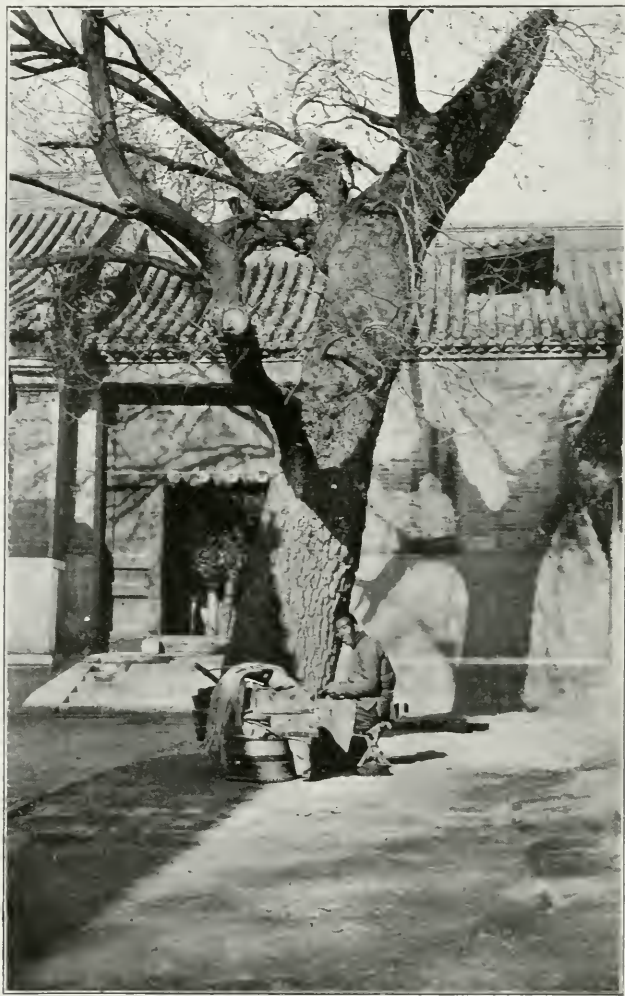
Kodaks or Premos equipped with R. R. lens,
Kodak Ball Bearing Shutter 10.00

Cameras with T. B. I. Shutters will be fitted as above at
an *additional* charge of \$6.00 for replacing T. B. I.
Shutter with Kodak Ball Bearing Shutter.

NOTE—*The f.77 lens cannot be fitted to these Premos:
Pocket Premo, 5x7 size of Premos Nos. 8 and 9,
Premo No. 10, Folding Cartridge Premos.*

CANADIAN KODAK CO., LIMITED

TORONTO, CANADA.



LAMA TEMPLE GROUNDS, PEKIN, CHINA
Made with a 3A Special Kodak, by M. C. French
Exposure, 1-10 second; f. 11.

KODAKERY

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JANUARY, 1922

No. 3



THE PATH OF THE MOON AND THE ROUTE OF A LANTERN.

A BROWNIE STUNT

WHEN an ingenious boy becomes interested in doing "stunts" with a camera some of the resulting pictures may challenge the scrutiny of a Sherlock Holmes.

The idea of securing a photographic record of a boy's wanderings at night may seem preposterous, but Kenneth A. Smith, a 14 year old boy, has demonstrated that this can be done.

All that is needed is a moonlight night, a camera and a boy carrying a lighted lantern. The lantern lights the route, the moon lights the landscape and the camera writes the story on the film.

In explaining how the picture shown above was made, its author informs us that he set up his Brownie at 9 P. M., opened the shutter on "T" (time) and left it open for 7 hours. While

the shutter was open he took a kerosene oil lantern and wandered about in the vicinity of his home.

To understand how the result was secured we must remember that the actinic brilliancy of full moonlight is only about 1-600,000 that of sunlight. The 7 hours (25200 seconds) exposure that the landscape and sky received by moonlight is, therefore, equivalent to only about 1-25 of a second by sunlight.

The white band in the sky represents the path of the moon, and the narrow white lines across the

landscape (made by the light of the lantern) indicate the route the boy traveled. The spiral in front of the house shows that when he climbed the fence and waved a salute with his lantern the Brownie responded by recording the greeting on the film.

Though the Brownie was working in extremely weak light it recorded everything it saw, but the boy. It would also have captured him had he remained in one spot long enough, but no live boy can be kept quiet for 7 hours, or even for 7 minutes, without the aid of chloroform.



THE GOLDEN PATH

Made with a No. 3 Brownie, by Rev. E. de F. Heald

SELF-CHARACTER STUDIES BY FLASHLIGHT

BY CARTOONIST BRADFORD

Illustrated by the Author

LAWYER
JORKINS
"Mr. Jorkins is
immovable"
said
Mr. Spenlow



Character
Study
from
"David
Copperfield"

DENY it as we will, after all is said and done, there is nothing so pleasing in the picture line, as to see one's self in the picture. If, added to this, we can inject some reason or excuse for this self-aggrandizement, we can interest our friends without apologizing for the "me" element associated with such procedure.

Innate in every one's nature is a longing for histrionic expression. Even the patient cow, drinking at the placid pool may wonder, as she sees her reflected image in the water, if she wouldn't make up as a nightingale, with a few "props" and the proper costume. Who has not secretly admired a favorite

movie actor, and recognized points of character that they, themselves, have to a lesser degree?

We all have our favorite authors, and what could be more fascinating than to impersonate some of the characters they created? If you have a Kodak, or any other camera, and some kind of flashlight apparatus, you will have everything that you will need for a new and delightful means of spending the long evenings that come with the approach of cold weather.

Costumes you will be able to devise, with a little ingenuity.

The important thing to remember is that the face rather than the costume determines the



A Dickens Character "*Gabriel Grubb*" the Sexton Therefore his face habitually wore an expression

character you are assuming. Accessories and costumes are but side issues, which only help to emphasize, or carry out, the general scheme.

You will want a burnt cork, sharpened to a point, for accentuating the big wrinkles that you make, in contorting your face to impersonate the salient expression of your character.

Look in the mirror, scowl, laugh, mourn, cry, go through the gamut of facial expression. You will be surprised at the mobility of your own face, especially if you can feel the emotion you are trying to express. Therein lies the secret. Feeling it and expressing it go hand in hand. That is just the difference between a great actor and a "ham". The actor feels it,

and therefore is able to show what he feels, while the other is simply practicing mimicry.

A criticism of a few of the characters portrayed in the illustrations accompanying this article will familiarize the reader with the "technique" used in the art of character portrayal. Take the character "*Gabriel Grubb*." The picture may not show Gabriel Grubb looked, but it has suggested the character to Dickens students of note. Why? Gabriel Grubb was an old grouch, a crabbed, bent old creature who snarled at everything that stood for the joy of living.

Starting with this as a foundation, then adding the bottle of Hollands in the pocket, and the spade to indicate the occupation of grave digger, and assuming the pose of a snarling old crab, it requires but little imagination to get the impression of "*Gabriel Grubb*."

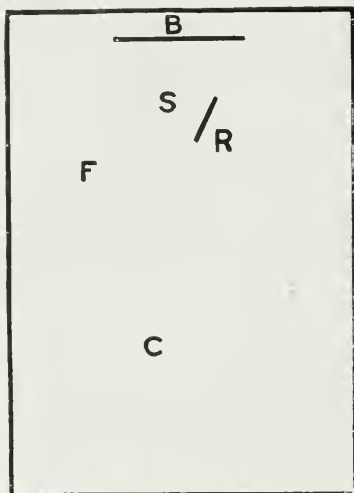
Notice the candle effect in the study "*Lawyer Jorkins*." This is a double-exposure trick. The candle was unlighted in the first exposure (the flashlight). After this was made the subject stepped aside, turned out the lights in the room and lighted the candle, then very gently opened the shutter, so as not to move the camera, and gave an exposure of 10 seconds. This registered only the candle flame. Simple, isn't it?



*"From Greenland's icy mountains
From India's coral strand."* (C) By W. R. Bradford

"Myself as My Grandmother" required little preparation. An old red curtain drapery supplied the shawl, while the old sunbonnet and the tea cup made me feel that I was very old and much-to-be-

pitied. Of course I was familiar with the wrinkled faces of the aged, and by noting the result of my facial contortions in the mirror, I could easily remember the feeling the effect produced. That's all



C—Camera R—Reflector
S—Subject F—Flashlight
B—Background

there is to it—actually impersonating the character and feeling that you are the character, is what makes it possible to record the impression in a photograph.

Having got the general idea of character delineation, the next thing is to arrange for making the flash. This can be done with Eastman Flash Sheets and a Kodak Flash Sheet Holder by having some one hold the flash in the position that will give the best lighting effect and set it off when all is in readiness.

The most suitable background to use is one that will photograph dark gray or black. A wall of the room in which the picture is to be made can be used as a background

if it shows no pattern, and is neither white nor light blue. You will use mostly dark costumes which with the light coming from one direction, will blend off into the background leaving the main accent on the face, where it should be. By noticing the pictures in this article you will see that this was the effect aimed at, and that the results justify the method.

As the light will come from one direction only it will be necessary to reflect some of it to the dark side of the subject. This can be done by placing a white sheet or large square of white paper on the dark side to reflect the light from the flash to the shadow side of the face and figure. Use your flash as though it were a pencil of light and direct it accordingly. A flash on the floor (in a large shallow pan) will give you a "footlight" effect.

EDITOR'S NOTE—If you know how to make good flashlight portraits you can easily make the kind of pictures Mr. Bradford has discussed.

If however, you do not understand the methods employed in flashlight portraiture you can quickly learn how to make flashlight self-character studies by working in accordance with the following suggestions:

With a hand mirror and a candle you can determine the lighting effects that will be obtained with flashlight.

Assume the position and the facial expression you wish to record. When the room lights are extinguished have someone hold a



MYSELF AS MY GRANDMOTHER

lighted candle about 7 feet from your face and about 18 inches higher than your head. If, when this is done, the candle is less than 3 feet from the ceiling the room is not high enough for making flash-

lights of your standing figure, but, if you are unable to touch the ceiling when standing with heels on the floor, the room will be high enough for a stooping or a sitting posture.

Hold the mirror so that it will show as much of your face as you wish to picture. For a full front view the mirror must be held so that both ears can be seen. For a side view (profile) it must be held so that only one cheek can be seen. If you turn your head you cannot see your profile in the mirror. The only way to see it is by turning the eyes. For a three-quarter view hold the mirror so that you can see three-quarters of your face.

After you see the view you want in the mirror have the camera placed so that if a line was drawn from the lens to your face it would pass through the mirror. Your helper can then hold the candle in different positions, keeping it about seven feet from your face and eighteen inches higher than your head. Note the changes that the mirror shows in the lighting effects as the candle is moved about and when the mirror shows the lighting you want, have the flash sheet holder with flash sheet attached held in this position.

Now turn on the lights in the room, and leave them on while the picture is being made, taking care, of course, that none of the lights will shine on the lens. These lights will have no appreciable effect on the film during the few seconds that the shutter is left open for making the flashlight.

If your lens stops read, 4, 8, 16, 32 &c use stop 8. If they read *f*6.3 or 7.7, 8, 11, 16, 22 &c use stop 11. If your camera has a single lens with stops marked 1, 2 and 3 use the largest stop.

As the light will come solely from the flash, a white reflector

of cloth or paper, not less than 2 feet square should be placed on the shadow side of the face, at the angle shown in diagram. As the reflector is only used for lighting the side of the face that is farthest from the flashlight, it will not be needed for full profiles.

When all is in readiness open the shutter, quickly take your position. Your helper will then ignite the flash and immediately afterwards close the shutter.

As all flashlight preparations are inflammable they should be handled carefully. They should never be ignited closer than 3 feet to walls, ceilings, curtains or draperies.

Be sure to read and observe the precautions the manufacturers recommend, in the instructions that accompany all flashlight goods.

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Should you move from one place to another be sure to inform us promptly, giving both your old and new addresses, and also the date when your subscription expires.



CASTLE OF ST. ANGELO, ROME
Made with a 3A Kodak



Much under-exposed—with smallest stop

THE STOPS ON JIMMIE'S BROWNIE

I TOOK these pictures while I was visiting Bobby," Jimmie explained to his father. "That automobile belongs to Bobby's brother. It's olive-drab and has a racing engine. I made three pictures of it. They aren't much alike, are they?"

"Indeed they aren't. Tell me about them. How did you happen to make three exposures?"

"Oh, I just wanted to see what I'd get if I took a picture with each of the stops. It was a bright day, a good day to find out."

"Well, your experiment certainly was successful. It proved that you must use the largest opening for snapshots of nearby subjects."

"Can you tell, dad, which stop was used for each of them?"

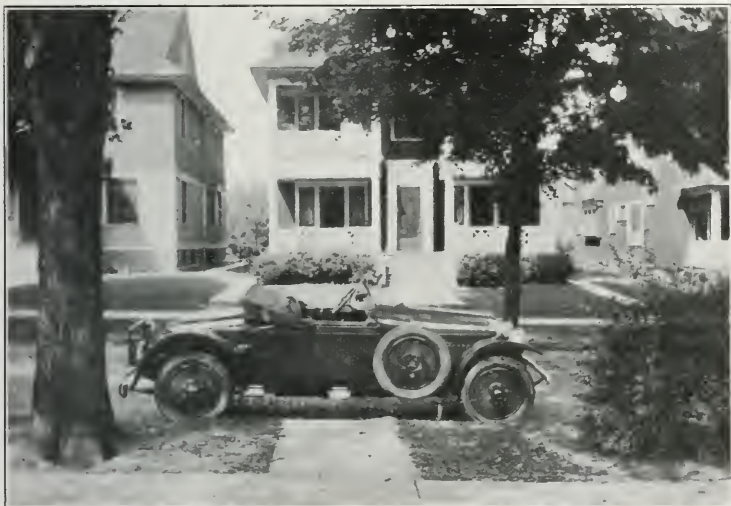
"Let me see the negatives, Jimmie. It is much easier to judge exposures from negatives than from prints."

"Here they are, dad."

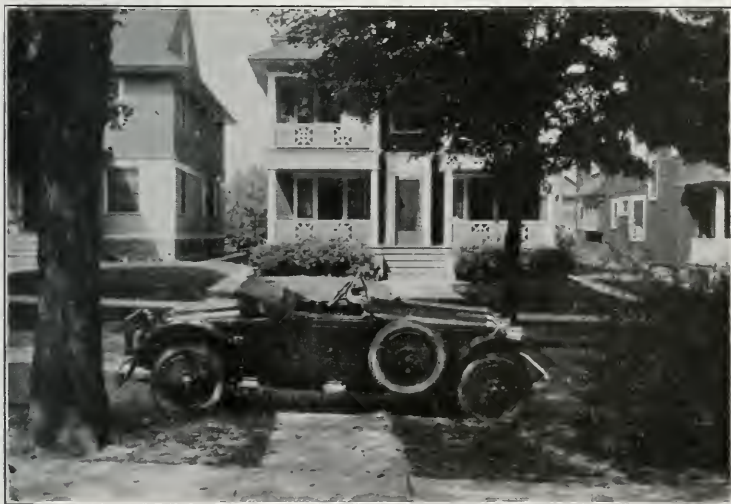
"I can tell which negative was made with the smallest stop. It's badly under-exposed," said Mr. Hatch, as he laid one negative aside and began a careful examination of the remaining two. "Both of these look good but one had more exposure than the other all right."

"How can you tell?" asked Jimmie.

"By the detail in the dark tones. Look at the bush and the patch of grass, and notice the big tree trunk.



Made with No. 2 stop—slightly under-exposed



Correctly exposed—with largest stop

The negative made with the largest stop shows them much more clearly. That's the negative that made the best picture, because the largest stop allowed enough light to get to the film, while the shutter was open, to record the shadow detail. You see, the speed of the shutter on the box Brownie is the same for every snapshot, but the stops are of different sizes.

"The largest stop should always be used for snapshots of subjects that are not more than five hundred feet away. The second stop is for distant landscapes and views across a broad expanse of water on which the sun is shining. The smallest stop is only intended for making time exposures. The second stop has a smaller opening than the first one and the third stop is smaller than the second."

"If you use the smallest stop for making a snapshot, the negative will be very badly under-exposed. Do you think you understand it, Jimmie?"

"Sure. A stop opening is the same as a window. A large window lets more daylight into a room than a small window does, and a large stop lets more light into the camera than a small one. Light is what records the picture on the film and if there isn't enough light there won't be enough image."

"You have exactly the right idea, Jimmie. The golden text of all amateur photographers should be 'Give plenty of exposure', so that enough light can pass through the lens."

Thereupon Jimmie Hatch suggested that their official song might be "Let a little sunshine in."



THE CROP

Made with a 2A Brownie, by H. L. Krebs



FISHERMEN

Made with a 3A Kodak



Made with a 3A Kodak, by Geo. A. Marks.



Made with an R. B. Telescopic Graflex,
by M. W. Reeves



Made with a No. 2 Brownie by
Mrs. A. K. Ludy

COMPANIONSHIP

CAMERA STORIES
OF GOOD FELLOWSHIP



Made with a No. 1 Kodak, Jr.,
by Geo. W. French



Made with a Graflex, by E. J. Brown



Made with a Graphic, by
D. J. Broderick



Made with a Premo, by Leopold Zwarg



IN AN OLD ENGLISH VILLAGE

Made with a 2C Kodak, Jr.

SPEED CARS AND SPEED CAMERAS

BEN LAMP was the first fellow in town to buy a six-cylinder automobile. It was a high powered machine and there was no safety in sight when Ben Lamp and his benzine buggy took to the road.

The trouble was that the car had been advertised as "the six that goes like sixty," and Ben took the slogan literally. He never tried twenty or thirty or forty miles an hour, except on the way to sixty. He supposed that the car was made for just that—as he often explained to the judge.

The fact that a Graflex camera has a shutter speed of 1-1,000 of a second indicates at once that the Graflex is *the* camera for photographing rapid motion. But this doesn't mean that the Graflex is

intended for speed pictures exclusively. The fact is the Graflex will do almost anything that any other hand camera will do. Its ability to stop swift motion is in addition to its general utility as an all-around camera for everyday use.

The Graflex lens and shutter equipment makes it the camera supreme when snapshots must be made in poor light. The Graflex focal plane shutter allows about one third more light to reach the film during a given exposure than other types of shutters. Furthermore, an *f*.4.5 lens passes almost twice as much light as an *f*.6.3 lens and more than three times as much as an *f*.8.

This extraordinary capacity for admitting light means that snap-

shots can be made earlier and later in the day, and even indoors, beside large windows on very bright days. Instantaneous pictures of children playing in the open on cloudy days, shaded street scenes, detail in dark toned objects, with a snapshot exposure—all are possible with Graflex.

So much for the ease with which the Graflex masters the various difficult phases of amateur photography.

But ordinary exposures are just as easy to make as extraordinary ones—by simply using the same shutter speed and the same stop

that are used for doing ordinary work with other cameras.

In any case, whether the subject is a bird on the wing, the family horse or a landscape, the Graflex Focal Plane Shutter provides the speed you require, and the Graflex reflecting mirror facilitates good composition by showing you the image in the focusing hood, full picture size, right side up, until the very instant of exposure.

If you have been using your Graflex for speed pictures only, remember Ben Lamp, who didn't know his car was expected to do anything but "go like sixty."



TOWERS OF MANHATTAN

Made with a Premo, by E. J. Brown



THE WELCOMING STREAM

Made with Graflex, Jr., by D. J. Broderick

USING A GRAFLEX FOR ORDINARY WORK

IN the article entitled "Speed Cars and Speed Cameras" we find, on page 19, a paragraph which reads: "But ordinary exposures are just as easy to make (with a Graflex) as extraordinary ones—by simply using the same shutter speed and the same lens stop that are used for doing ordinary work with other cameras."

The term "ordinary exposures" refers to such exposures as can be made with compact hand cameras that are not equipped with focal plane shutters, and the term "ordinary photographic work," as used in the article, means photographing landscapes and practically all other stationary or slowly moving objects that the amateur pictures with hand cameras.

The extraordinary work for which the Graflex is pre-eminently adapted is photographing rapidly moving objects at short range. For this work a lens aperture of $f.4.5$ and a shutter speed ranging anywhere from 1-500 to 1-1,000 of a second are needed.

For the ordinary work that is done with hand cameras stop 8 ($f.11$) or stop 16 ($f.16$) and a shutter speed of about 1-50, or 1-25 of a second are most often used.

The size of the stop affects the depth of focus, that is, the sharpness of the images of objects that are different distances from the camera. The smaller the stop the greater becomes the depth of focus, and vice versa.

The fact that speed work is done



GATEWAY IN THE FRENCH PYRENEES
Made with a Premo

with stops which give little depth of focus and ordinary work is done with stops which give considerable depth of focus, suggests that these two classes of work are judged by different standards. That they actually are judged by different standards, whether the photographer is conscious of the fact or not, is made evident by letters we sometimes receive from speed workers, asking why the methods that give them what they want in speed photography do not give them what they want in ordinary landscape photography.

In speed work the photographer wants to get sharp images of rapidly moving nearby objects which are, in most cases, the only things of interest in the pictures. This can only be done by using a large stop on a fast (large aperture) lens and a very fast shutter speed.

In ordinary work, such as landscape photography, where several objects of varying degrees of interest are included in the picture, the photographer wants to get sharp images of objects, that are partly in sunshine and partly in shadow, at various distances from the camera, and this can only be done by using a medium or small lens stop.

The smaller the stop the slower the shutter speed that must be used for insuring ample exposure.

From 2½ hours after sunrise until 2½ hours before sunset, on a sunny day, the standard exposure for an ordinary landscape that has a prominent object in the foreground is 1-25 of a second with stop 16. For an extremely distant landscape it is 1-25 of a second with stop 32 (f.22). For a nearby landscape it is 1-25 of a second



CHISWICK, ENGLAND
Made with a 2C Brownie

**TEMPTING FRUIT**

Made with a Premo, by F. W. Still

with stop 8 (f.11) and for a portrait in open shade, with nothing but the sky overhead, the exposure is 1-25 of a second with stop 4 (f.8).

These shutter speeds and stops are recommended for all folding hand cameras, no matter whether

they have anastigmat or rectilinear lenses.

These exposures are neither the shortest nor the longest that will give good results with Eastman Film. They are averages which insure ample exposure.

The photographer who prefers to use faster or slower shutter speeds than 1-25 of a second and wishes to secure the same light action on the film that the 1-25 second exposure gives with the stops mentioned can do so by maintaining the same relation between the stop and the shutter speed. This relation is shown in the following table:

<i>f.</i> Value of stops	Relative areas of stop openings	Comparative shutter speeds
4.5	12.7	1/300
5.6	8.	1/200
6.3	6.4	1/160
7.7	4.3	1/110
8.	4.	1/100
11.	2.	1/50
16.	1.	1/25
22.	.5	1/12
32.	.25	1/6
45.	.125	1/3

By taking stop 16, which is recommended for general landscape work, as a standard for comparison, the column of Relative areas of stop openings shows that

stop *f*.4.5 has about 12 times as large an opening as stop 16. This means that only 1-12 as long an exposure is needed with stop *f*.4.5 as with stop 16, or, in other words, when an *f*.4.5 lens is used with its *f*.4.5 stop it works about 12 times as fast as when used with its *f*.16 stop.

An exposure of 1-300 of a second with stop *f*.4.5 will produce approximately the same light action on the film as an exposure of 1-25 of a second with stop 16. However stop *f*.4.5 will not give the same depth of focus as stop 16, and, when photographing objects that are at different distances from the camera, depth of focus is important.

Depth of focus may be defined as the distance between the nearest and the farthest objects that are sharply rendered by the lens.

Depth of focus depends on the relative size of the stop used and



ON LAKE LEMAN
Made with a Kodak



LOOKING PLEASANT

Made with a 2A Folding Brownie, by Mrs. Alma Osborn

also on the focal length of the lens. The shorter the focal length the greater the depth of focus, and the smaller the stop the greater the depth of focus.

As the focal length of any lens is a fixed quantity, depth of focus must be regulated with the lens stop. The Graflex user can always tell what depth of focus will be secured by watching the image on

the ground glass while the lens is being stopped down. Practically the only difficulty that is encountered by the speed worker, who is in the habit of using large stops and very fast shutter speeds, is securing depth of focus combined with ample exposure, when ordinary work is undertaken. This difficulty can be wholly overcome by the methods we have explained.



IS YOUR PRINTING ROOM LIGHT SAFE?

ALL photographic developing papers are sensitive to light.

If they were not they could not be used for making prints from negatives. No matter what the color of the light may be, and no matter how dim the light may be, it will fog all kinds of developing papers if they are exposed to it long enough.

Since it is not practical to develop prints in darkness they must be developed in subdued daylight or in a colored light that is safe. By a light that is safe is meant one that will not affect the paper during the time it is necessary to handle it in the light.

Should the margins of pictures that you printed through masks be gray instead of white you should test the light by which you handle and develop the paper. To make this test place an unexposed sheet of Special Velox paper, emulsion side up, on your work table in the same position that your developing tray occupies when you develop

prints. Cover one-half of it with a sheet of cardboard and let it remain there for two minutes, then place it in the developer face down and leave it there for 45 seconds. If at the end of this time, the half of the sheet which was uncovered appears gray while the part that was covered is still white, your light is not safe; but if the entire sheet is white your light is safe.

Never handle Velox paper in a light that will not stand this test. If the light you are using is unsafe filter it through enough yellow or orange colored paper to make it safe. The orange-colored paper known as post-office paper, that Kodak dealers furnish, is heavier and more suitable than tissue.

The Kodak Safelight Lamp and the Brownie Safelight Lamp—both of which can be fitted with two safelights, one for use with films and plates and one for use with Velox and other developing papers—will give the most brilliant light it is safe to use.



SUNLIGHT AND SHADOW

Made with a 3A Special Kodak by W. F. Shorney.

SERVICE DEPARTMENT TALKS

DRYING NEGATIVES IN COLD WEATHER

AFTER negatives have been developed, fixed and washed they should be dried in a place that is free from dust, where the air is constantly changing.

When the temperature is below freezing it is necessary to dry negatives in a heated room, because if the water that is in the gelatine freezes the negatives will be ruined.

Never dry negatives over a stove or very close to any heating apparatus. If this is done the gelatine will melt and spoil the negatives.

Never dry negatives by immersing them in medicinal or denatured alcohol, as alcohol baths will remove the water from the gelatine so rapidly that the gelatine will crack. Wood alcohol will dissolve the film base.

Negatives are constantly being dried in heated rooms without being injured in any way. They can be safely and promptly dried by being hung not less than three feet from a radiator or hot air register, and, when they must be dried in a room that is heated by a stove, they may be hung about ten feet from a moderately hot—not a red hot stove.



*For any information you may desire regarding
amateur photography address*

SERVICE DEPARTMENT, CANADIAN KODAK CO., LIMITED
TORONTO, CANADA

THE POCKET PREMO

\$11.00

COMPACTNESS—the Pocket Premo fits the hand, although it makes pictures $2\frac{1}{4} \times 3\frac{1}{4}$ inches in size and loads with a 12-exposure Premo Film Pack.

QUICK ACTION—one motion opens the camera and automatically snaps the front into accurate fixed focus.

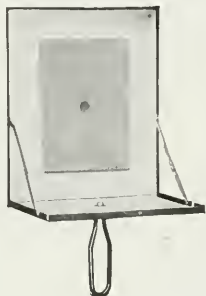
SIMPLICITY—the only adjustments are for shutter speed and diaphragm.

THE POCKET PREMO is an excellent instrument for the beginner or for the advanced amateur who wishes to add a pocket camera to his equipment.

At Kodak Dealers'

CANADIAN KODAK CO., LIMITED
TORONTO, CANADA.

Pictures by Flashlight



Kodak Flash Sheet Holder

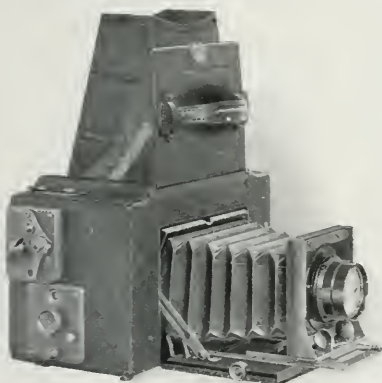
EASTMAN Flash Sheets and the Kodak Flash Sheet Holder offer a simple, sure method of making flashlight pictures. The sheets give a broad, soft light, while the holder, by means of which the sheet is ignited from the back, with a metal sheet between the operator and the flash, supplies a practical convenience.

PRICES

No. 1 Flash Sheets, per package of $\frac{1}{2}$ dozen sheets 3 x 4	\$0.35
No. 2 Flash Sheets, per package of $\frac{1}{2}$ dozen sheets 4 x 5	.56
No. 3 Flash Sheets, per package of $\frac{1}{2}$ dozen sheets 5 x 7	.84
Kodak Flash Sheet Holder	1.50

CANADIAN KODAK CO., LIMITED
TORONTO, CANADA

Ask your dealer, or write us for the free booklet "By Flashlight"



The 3A GRAFLEX

Autographic

For Pictures
 $3\frac{1}{4} \times 5\frac{1}{2}$ inches

THE 3A GRAFLEX uses roll film, has the autographic device, and makes pictures of the popular post-card size. These features distinguish it as a particularly suitable camera for all-around, everyday use.

Embodied in it also are the basic Graflex principles--the focal plane shutter with speeds of $\frac{1}{10}$ to $\frac{1}{1000}$ of a second; the reflecting mirror, which shows the image right side up, full picture size, until the exposure lever is pressed, And the Kodak Anastigmat lens $f.4.5$ has no superior at any price.

The Graflex is not only supreme in speed photography but it is also admirably suited to less sensational tasks. With the exception of wide angle lens work, it will do all that any other hand camera will do.

Graflex catalogue free at your Dealer's or by mail

CANADIAN KODAK CO., LIMITED
TORONTO, CANADA.



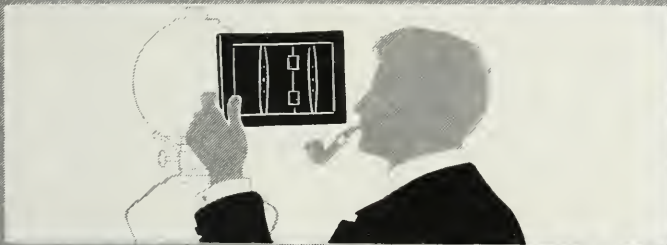
*For the
Living-room,
Library or
Den—Your
Kodak Pictures
Framed with*

KODAK SNAPSHOT FRAMES

Made of $\frac{1}{2}$ -inch wood moulding, with brown mission finish to take prints of all the standard sizes from Vest Pocket ($1\frac{5}{8} \times 2\frac{1}{2}$) to 3A ($3\frac{1}{4} \times 5\frac{1}{2}$), and for enlargements 5×7 , $6\frac{1}{2} \times 8\frac{1}{2}$ and 8×10 .

At Your Dealer's

CANADIAN KODAK CO., LIMITED
TORONTO, CANADA.



Prints by Gaslight

The good negative deserves,
The poor negative demands

VELOX

Tell your finisher that you
want your prints on Velox

CANADIAN KODAK CO., LIMITED
TORONTO, CANADA



ACHIEVEMENT

The production of the Kodak Anastigmat lens is a distinct achievement—not merely in the fact that it is at least the equal of the finest anastigmats made anywhere in the whole world, but in the further fact that through the use of scientific, specialized machinery of the utmost accuracy it is made and sold at a price which is bringing the anastigmat advantages to hundreds of thousands of amateurs who have not hitherto felt that they could afford a lens of the finest quality.

*Send for the free booklet "About Lenses". It contains
interesting information that you ought to have.*

The KODAK
ANASTIGMATS Canadian Kodak Co., Limited
f.7.7 f.6.3 and f.4.5
Toronto, Canada.

KODAKERY

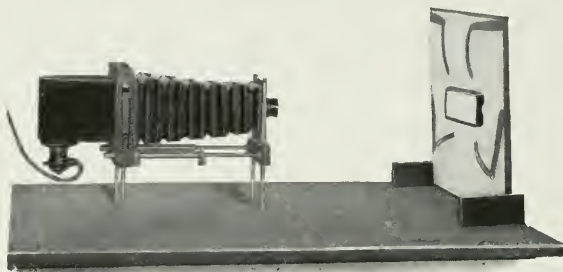
A
MAGAZINE *for* AMATEUR
PHOTOGRAPHERS



FEBRUARY 1922



CANADIAN KODAK CO., LIMITED.
TORONTO, CANADA.



YOUR vacation pictures, for example—those sharp clean-cut negatives that you made last summer, will yield excellent enlargements with a

Kodak Enlarging Outfit

Too compact to be a problem as to storage—there's room for it on the closet shelf—and a table top is all the space required when in use.

And yet the Kodak Enlarging Outfit is a thoroughly practical instrument. From negatives up to 4x6 inches, enlargements up to the size of the easel, 14 x 17 inches, may be readily made.

Nor do these dimensions indicate all that the outfit can do. Utilize the wall as an easel and make the prints as large as you like.

The outfit includes Enlarging Camera, lens and diaphragm (largest stop U. S. 4), easel, lamp housing, light cord and plug, but does not include the 60-watt Mazda electric light bulb.

Kodak Enlarging Outfit	\$23.00
Lantern Slide Block	1.00
Portrait Attachment No. 575

CANADIAN KODAK CO., LIMITED

TORONTO, CANADA

*Blue skies, green fields—colors as
the eye saw them with*



Velox Transparent Water Color Stamps

IT'S fun to color your prints—Velox Water Colors make it easy—and the results are well worth the effort.

The Velox Transparent Water Color Stamp Outfit includes the book of stamps, three brushes and a white enameled mixing palette, put up in a neat cardboard case.

Velox Transparent Water Color Stamps, complete booklet, twelve colors	\$0.50
Separate Color Leaves, two sheets10
Set of three Special Brushes, per set50
Mixing Palette30
Velox Transparent Water Color Stamp Outfit, including book, three brushes and palette	1.20

CANADIAN KODAK CO., LIMITED

TORONTO, CANADA

At your dealer's



BLOSSOMS

ENLARGED FROM A PREMO NEGATIVE
MADE BY MISS MARION ROBERTSON

KODAKERY

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Vol. IX

FEBRUARY, 1922

No. 4



A JANUARY THAW

Made with a 3A Kodak and Wratten G Filter f.11, 2 seconds

FOREGROUND TONES IN SNOW SCENES

AFTER a big snowstorm has spread a white blanket over the landscape, man and beast and sun and wind trace patterns on the blanket. It is these patterns, woven in light and dark tones, by sunlight and shadow, by snowdrifts and by footprints that we must often depend upon for adding pictorial

interest to our pictures of snow scenes.

These patterns are always most conspicuous when the sun is shining brightly, especially when they consist of the shadows of trees or bushes or other objects that project above the snow.

In some parts of the northern hemisphere there are many days



A COUNTRY ROAD

Made with a Kodak, by Phil M. Riley

in early winter when the sun is only visible during the midday hours, but as the sun is much lower in the heavens in winter than in summer, the winter noonday shadows are always long enough for producing splendid pictorial effects.

The photographer who may have overlooked the importance of securing foreground detail in pictures of snow-covered landscapes will best appreciate the pictorial value of this detail by placing a piece of white paper over the foregrounds of our illustrations. The white paper will show, approximately, what would be obtained by making pictures of these scenes at a time when the snow was an unbroken mass of white. A remedy for a blank white snow foreground, that is always available, is breaking a path or putting footprints in

the snow before the picture is made.

When shadows on a snow foreground are quite prominent they can be recorded with the same exposure that is given for a distant summer landscape, that is, $\frac{1}{2}$ of a second with stop 32 ($f.22$ on anastigmat lenses), or a snapshot with the second stop when a single lens camera of the box type of Brownie is used.

If the shadows on the snow are faint and it is desired to considerably increase the contrast between the sunlight and the shadows, this can be done by placing a Wratten G filter in front of the lens and giving one hundred times as long an exposure as would be needed without a filter. The result of doing this is shown by "A January Thaw" on page 3. At the time this subject was photographed the shadows were so faint that without



A BEND IN THE BROOK

Made with a Graflex, by E. J. Brown

the filter the picture would have shown very little contrast between the sunlight and the shadows.

Slightly more contrast between sunlight and shadow can be secured by using a Kodak Sky Fil-

ter upside down, that is, with the yellow part of the filter at the bottom of the lens and giving the same exposure with as without the filter.



WINTER LIGHTS AND SHADOWS

Made with a 3A Kodak, by F. O'Brien

By devoting attention to the foreground you will find that the street on which you live, the parks and the country near your

home will reveal pictorial possibilities that nothing but snow can create.



SILVER TRACERIES

Made with a No. 1 Kodak Jr., by Miss Helene Fisk



THE POINT OF THE STORY

Enlarged from Picture made with a No. 9 Premo, by C. N. Wolaver



Made without Portrait Attachment



Made with Portrait Attachment

SAVING BOBBY'S FACE

JIMMIE HATCH got his Brownie on his fourteenth birthday and he began at once to take pictures around boarding school. By reading and rereading the Brownie manual he had learned a lot about picture-making, and he always got good pictures when he did what the manual recommended. A few months later, home for the week end, he had a Brownie book full of prints to show to his father.

Mr. Hatch and Jimmie had just ended a discussion about why one should use the largest stop when making snapshots under ordinary

conditions. That settled, Jimmie turned the page.

"Here are some pictures of Bobby. One is taken with the monacle and one without."

"Heavens! Does Bobby wear a monacle?" demanded Mr. Hatch.

"No, no. The camera wears a monacle—a Kodak Portrait Attachment. Look at the prints. This one I took without the Portrait Attachment. What do you think of it?"

"I think it's a good, clear print. How far away were you when you took the picture?" asked Mr. Hatch.

"Just about eight feet. The manual says that for making full figure portraits the camera should be from eight to ten feet from the subject, so I used the middle stop and photographed Bobby at a distance of about eight feet."

"Well then, you got about the biggest image that you could without the Portrait Attachment," declared Mr. Hatch. "It's a good print, but still it isn't exactly my idea of a portrait. You see, Bobby is not the most conspicuous object in the picture. The bench on which he is sitting is as prominent as he is. When I look at that print, my attention is diverted from Bobby to the bench, the lawn and the big tree. The face and figure should be the only objects that hold one's attention when looking at a portrait. The face should always compel attention—that's the point. And the surest way to get this result is to make a large image of the face."

"That's where the Portrait Attachment comes in," volunteered Jimmie.

"Exactly," agreed his father. "The Portrait Attachment slipped over the regular lens makes it possible to work close enough to the subject to get a large image of the face."

"Simple affair, too, isn't it? Just fits in front of the lens like a—*a monocle*," Jimmie ventured.

"The only thing to remember is that you must be careful that the distance from the camera to the subject is exactly correct. Otherwise the image will be out of focus and the picture will be a failure. The direction sheet that comes

with the attachment tells just how far the front of the camera must be from the subject. That's important.

"With the Portrait Attachment you must not try to change the size of the image by moving the camera to or from the subject. It is in perfect focus at one distance only and that's the distance specified in the direction sheet. I wouldn't estimate the distance; I'd measure it so as to make sure of getting sharp pictures."

"Bobby and I measured carefully." We went down to the manual training room and cut a light stick exactly $3\frac{1}{2}$ feet long. No chance to go wrong with that."

"The print is good and sharp all right," said Mr. Hatch. "If you had guessed at the distance and made an error of several inches, the image would have been so badly out of focus that you probably couldn't distinguish Bobby's features."

And Jimmie agreed that it was a case of where Bobby had to keep his distance or get his face spoiled.



Made with a 2A Brownie



NEAR THE SHADOWS OF THE ARCHES

THE SWIRL OF THE SNOWFLAKES

BY CARTOONIST BRADFORD

Illustrated with Enlargements from the Author's Negatives.

THERE are snow pictures—and snow pictures. I am taking it for granted that you have a lot of the ordinary kind—the kind that can be made at any time when the ground is covered with snow—so let's hie on to something that's out of the ordinary; something that looks really difficult, but is, in fact, dead easy.

It was during a March blizzard that I discovered how to photograph a snowstorm and register

the swirl of the snowflakes. It was one of the times when old Mother Goose "picks the geese" in a hurry, and just makes the feathers fly. I grabbed my little pocket camera and went over to the City Hall, bearing in mind the dark, cavernous entrances that would make black backgrounds for the snowflakes.

Everywhere were camerists taking advantage of the pictorial possibilities. Among them were newspaper photographers with their



FIGURES IN THE FLURRY

large cameras fitted with *f.* 4.5 lenses, which they were using "wide open," at $\frac{1}{30}$ of a second,

to "stop" motion of the scurrying figures as they hurried through the deluge of falling snow.

I reasoned: A 50th of a second will "freeze" the motion of the people on the street, but it may do the same thing for the snowflakes; and if it does, the result will be a lot of small white dots scattered through the picture. What I want is something that will suggest what the eye sees during a blizzard. So I set the shutter at $\frac{1}{10}$ of a second and the lens stop at *f*.8.

This exposure recorded the movement of the flakes and made them look, not like dots but like streaks just as they always do look while a blizzard is raging.

An after comparison of my negatives with those made by the news men was altogether in favor of my method. The news men had fine negatives, sharp as a hound's tooth, with every figure as clean cut as though chiseled out of marble, but the snowflakes—the motif for the pictures—were hardly visible, owing to the fact that they were not allowed to blur a bit. Those sharp negatives didn't show the "snowing and blowing" that is characteristic of blizzards—the effect that you will get in your next snowstorm pictures if you will follow the method I adopted.



IN THE SWIRL

There is nothing better, if as good, as Eastman film for photographing snow scenes and snowstorms. First, because of its quality (I have used all makes) and second, because it is easier to wind a new section of film into position for the next exposure than it is to change plate holders.

When you wish to photograph a driving snowstorm, or want to undertake any other unusual work with your Kodak, forget all

about the so-called "mysteries" of the camera; there are none. All the successful work you do, whether usual or unusual, is the result of the planning that is done by YOU. Therefore, whenever you plan an unusual picture turn your big guns of thought on your picture or subject matter, then snap your Kodak. You'll soon discover how easy it is to get a picture of the subject, as you saw it.



HOLDING THE CAMERA STEADY

WHEN making a snapshot we naturally hold the camera in the way that is easiest. If our snapshot pictures prove sharp then our way of holding the camera is right, but if they are blurred all over then our way is not right and we should

hold the camera in some other way.

A successful way, for most people, is to press the elbows against the body, hold the camera in *both* hands, and press the finger release or the plunger of the cable release by *moving the thumb only*.



THE SURF

Made with a 3A Kodak



FIELD FLOWERS

MADE WITH A GRAFLEX

BY WALTER RUTHERFORD



CASTLE OF CHAPULTEPEC—MEXICO
Made with a Kodak, by Sumner W. Matteson

HOW DISTANCE AFFECTS THE STRENGTH OF LIGHT

WHEN light emanates from a single point its strength, or brilliancy, at any distance from its source varies as the squares of the distances.

If there is neither ground glass, nor anything else that diffuses light, in front of the light source, we may, for practical purposes, consider a single lamp, whether it be an oil, a gas or an electric lamp, as a point source of light, and when we use a single lamp for making prints from a negative we will find that, should the exposure needed for obtaining a correctly printed print be 10 seconds, when the printing frame is placed 10 inches from the light at 30 inches, which is 3 times as far as 10 inches, the exposure required will be 3×3 or 9 times as long as at 10 inches. This will be 90 seconds.

If placed at 5 inches from the light—this being $\frac{1}{2}$ of 10 inches—the exposure required will be $\frac{1}{2} \times \frac{1}{2}$ or $\frac{1}{4}$ the exposure needed at 10 inches. This will be $\frac{1}{4}$ of 10 seconds, or $2\frac{1}{2}$ seconds.

Experience has proven that a sufficiently uniform illumination of the negative, which will avoid over-printing the centre before the edges of the negatives are correctly printed, is obtained by placing the negative the length of its diagonal from the printing light. If the length of time it takes to print at this distance has been determined, and if at this distance the printing proceeds too rapidly or too slowly, the length of time to print at any other distance from the light can be quickly calculated by the rule we have stated.

A GROUP OF PICTURES ABOUT THE

WITH KODAKS. BY



Made with a Premo. by E. J. Brown



Made with a No. 2 Brownie and Kodak Portrait Attachment. by Enos C. Baker, Jr.



Enlarged from a No. 1 Kodak Jr. negative. made by Geo. W. French

PHOTOGRAPHS MADE IN AND AT HOME

AND PREMOS.



Made with a No. 1 Brownie, by
Mildred M. Clifford



Made with a Premo, by E. W. Donaldson



Enlarged from a Premo negative, made by A. Hardman



A SKI JUMP

Made with a Graflex; bright sunshine; 1-440 sec.; exposure; f.8

PICTURES THAT TELL THE STORY OF WINTER

THE story of the changes that winter makes in the appearance of the landscape can be effectively told by photographs that show the landscape under its varied winter aspects, but valuable as such pictures are, they do not record all that we want to remember about winter, for they tell us nothing about the outdoor occupations and pastimes of the people during the winter months.

All who live where it rains in summer and snows in winter make pictures of outdoor life in summer, but many do not make outdoor story-telling pictures in winter. These winter pictures can be secured almost everywhere and they are well worth making. All that is needed for a subject is some

person who is actively engaged in doing something.

A story-telling picture differs from a portrait. A portrait is made in order to secure a likeness, but a story-telling picture is made in order to secure a record of what someone is doing. In fact, the likeness is so secondary that good stories can be told by pictures which do not even show the features of the subject.

As a rule, story-telling pictures should not be made when the subject is looking at the camera. There are, of course, exceptions to this rule. For instance, when a youngster is coasting he must watch his course, and if he is heading straight for a man with a camera, who photographs him as he comes, the picture will show that he must have been looking toward the camera. Such a pic-



CLEARING THE ICE FOR BROTHER

Made with a 2C Kodak Jr. Exposure, 1 sec.; stop, 3; cloudy dull

ture will, however, tell a story because it will represent him intently occupied with the business

in hand, that is, keeping his sled on the course. But a man sawing wood or shoveling snow should



A FULL LOAD

Made with a 3A Kodak Jr. Exposure, 1-50 sec.; f.11; sunshine

not be photographed while he is looking at the camera. The story centres in his occupation, and if the picture shows him posing instead of working, it may be a pleasing portrait but it will not be a story-telling picture.

The thing to guard against is the tendency that people have of looking at the camera or at the photographer at the time the picture is being made. By telling them what is wanted and then making the exposure at a moment when they are intently engaged in some occupation or pastime, the picture will contain no evidence of their having been conscious of the presence of a camera.

Our illustrations show a few of the many types of outdoor story-telling pictures that can easily be obtained in winter. All of these young people knew they were being photographed, but none of the pictures tell us that they knew it. The surest way of securing a picture that shows people actually doing something is by making the exposure without informing them when it will be made.

The exposures that are needed for making fully timed story-telling pictures outdoors in winter, when the sun is shining, are usually the same as for making the same kinds of pictures in summer.



PRIDE GOETH BEFORE A FALL

Made with a Graflex. Exposure, 1-440 sec.; f.8



THE BATTLE—Made with a Graflex. Exposure, 1-440 sec.; f.8



THE PASTURE LOT
Made with a 2C Kodak Jr.

THE FUNCTION OF THE PORTRAIT ATTACHMENT

THE nearer the lens is to the object that is photographed the larger will be the image of the object in the picture.

On focusing cameras it is the length of the bellows that determines how close to the subject the lens can be placed without making an out-of-focus picture.

Long bellows cameras are necessarily so much bulkier and so much heavier than the modern, compact hand cameras that make the same size of picture, that few people are willing to carry them about.

Modern hand cameras have bellows that are long enough for making sharp pictures of objects that are not nearer than six or eight feet, and if the images the lens makes at these distances are not as large as desired, larger ones can be obtained by placing a Kodak Portrait Attachment in front of the regular camera lens.

When a Kodak Portrait Attachment is used on a focusing camera

that has a 6-foot mark on the focusing scale, sharp pictures can be made with the subject only thirty inches from the lens. The exact distance that the front of the portrait attachment must be from the subject when the focus is set at any of the various distance marks on the focusing scale is stated in the instruction sheet that is furnished with every portrait attachment.

When a Kodak Portrait Attachment is used on the fixed focus types of Kodaks, Premos and Brownies the subject must be placed three and one half feet from the lens.

For making head and shoulder portraits, and for photographing flowers and other small objects at short range, the Kodak Portrait Attachment is indispensable to the users of compact hand cameras as it enables them to do what could otherwise only be done with a long bellows camera.

BRILLIANT ENLARGEMENTS FROM FLAT NEGATIVES

IN every negative from which a picture can be printed there must be both light and dark tones. In most negatives there are several tones between the lightest and the darkest.

These tones represent the images of objects, and, as the eye can only separate objects from their surroundings by contrast, it is the contrast between the tones that makes the images conspicuous.

When the contrast between the tones is pronounced the negative is said to be snappy or brilliant, and when the contrast is slight the negative is said to be flat or weak.

If we make a print from a negative on a paper that will record approximately the same range of tones that the negative contains we will get a brilliant print from a brilliant negative and a flat print from a flat negative. The only way we can get a brilliant print from a negative that is flat is by using a paper that will record more contrast than the negative contains.

In contact printing, that is, printing with the paper in contact with the negative in a printing frame, we can do this by making the print on Contrast Velox, and in bromide enlarging we can do it by making the enlargement on Brilliant Velvet Bromide.

Fig. 1 of our illustrations, on page 24, was made from a flat, negative. It faithfully represents the contrast between the tones of the negative. Fig. 2, on page 25,

shows the result of making an enlargement from this negative on Brilliant Velvet Bromide.

It will be noticed that Fig. 1 is grey and black instead of white and grey and black. Had it been printed lighter, so that the lightest tones would have been rendered white, every tone in the picture would have been lighter; there would have been no black tones at all, and the result would have been a flat, grey and white under printed picture which contained fewer tones than Fig 1 shows.

If we wish our enlargements to show, as nearly as possible, the light and shade effects that we saw in the subject at the time it was photographed we must get enough contrast in our picture to render the tone values of the light and shade. If the negative was amply exposed and fully developed it will have sufficient contrast for rendering these tone values on either Royal, Standard, Velvet, Enamel or Matte-Enamel Bromide but if the negative was amply exposed and then under-developed it will be flat and will have too little contrast for these papers, and it is for just these flat negatives that Brilliant Velvet Bromide is especially adapted. It will, in fact, make brilliant enlargements from any negative that will make brilliant contact prints on Contrast Velox.

In our next number we will explain how to make pleasing enlargements from negatives that are extremely contrasty.

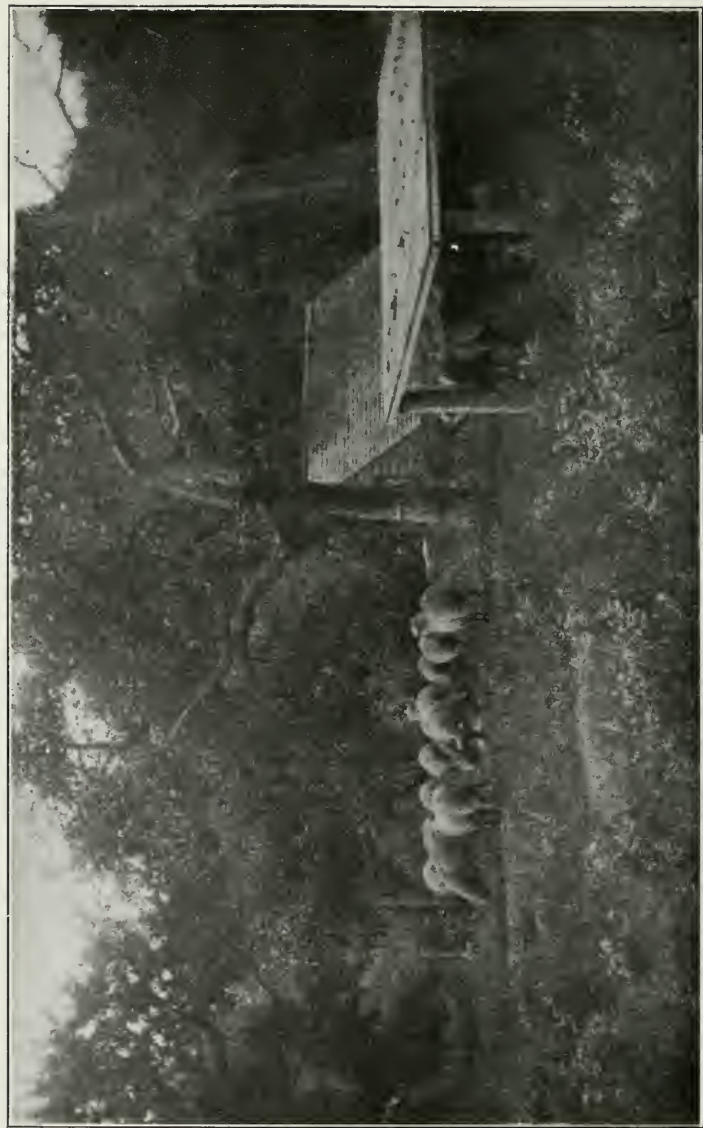


FIG 1—A Flat Enlargement from a Flat Negative

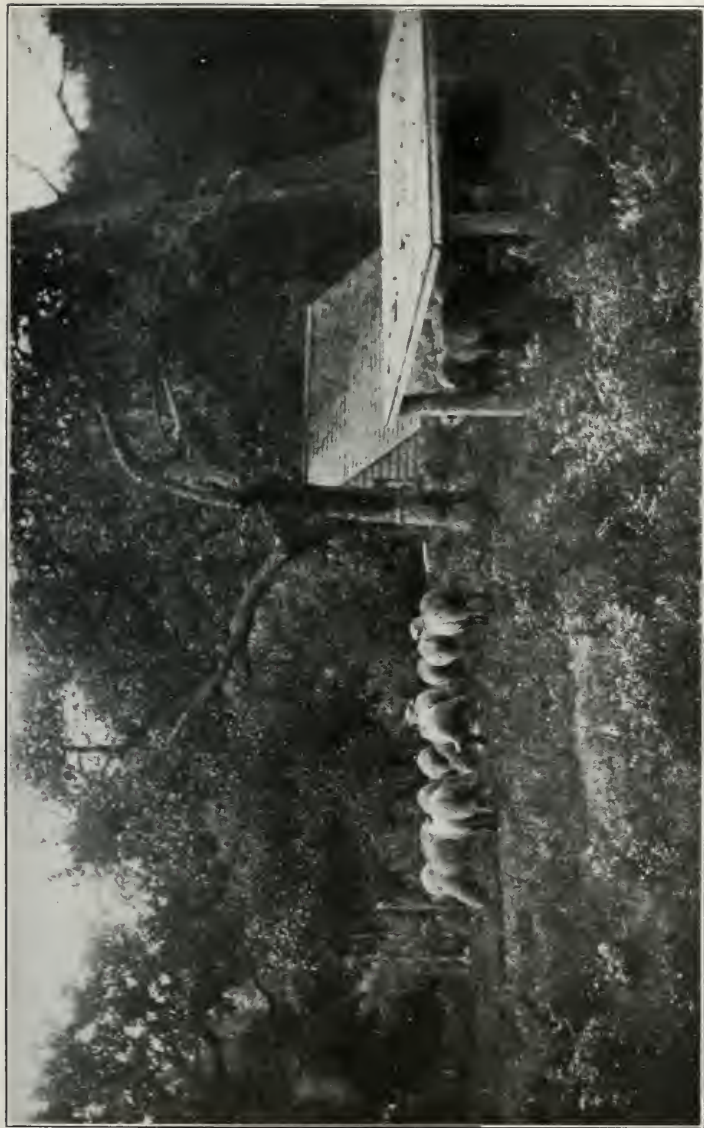


FIG. 2.—A Brilliant Enlargement from the negative that made the picture on opposite page

PICTURING THE "SUN MAID"

WHEN George H. High, an amateur of Chicago, read the California Associated Raisin Company's recent offer of \$1000 for the best amateur photograph of a beautiful girl, his eye turned from the announcement to his Graflex. And on the instant his mind was made up. A chance in a thousand, perhaps, but a chance for a thousand, too. He took the chance, and in due course took the prize, securing as well an additional award of \$100 offered by a Chicago newspaper—\$1,100 in all.

The contest aroused such general interest that competitions were held in 18 cities and in Chicago alone more than 1,000 prints were submitted.

The judges in the Chicago contest were Mr. Lorada Taft, the sculptor, Mr. Harry L. Diamond, president of the Melville H. Sykes studio and Mr. Charles Bass, photographic expert.

In commenting on the Chicago pictures the press reports that Mr. Taft said: "The pictures which I assisted in judging are worthy of exhibit. It seems incredible that they are the work of amateurs." And Mr. Diamond: "I have never seen a more beautiful collection of amateur photos. They bear testimony to the development of this art in Chicago and its environs."

Some of these amateur pictures were pronounced "as exquisite as etchings of our great artists."

The camera that made the prize winning picture was a $3\frac{1}{4} \times 1\frac{1}{4}$ Revolving Back Graflex. The negative was made on Eastman Film, the print on Eastman paper and Eastman Chemicals were used for developing both negative and print.

But then we don't want to be selfish about the thing.

The girl in the picture is Miss Violet Oliver.



FINGER MARKS ON NEGATIVES

ORDINARY dirt can be removed from a negative by placing it in water for 15 minutes and then gently mopping it with a tuft of wet cotton. Finger marks, however, usually contain both dirt and oil, and since oil and water will not blend, water will not remove finger marks. Unless the finger marks have been allowed to remain on the negative long enough for the oil to penetrate the gelatine they can be re-

moved by gently rubbing the negative with a tuft of cotton that has been moistened with gasoline or benzine.

Since dirt and finger marks on a negative nearly always show in the print, both sides of negatives should be kept clean. The way to insure this is to handle negatives only by their edges, and to store them where dust and dirt cannot reach them.



THE "SUN MAID"

SERVICE DEPARTMENT TALKS

COLD DEVELOPERS

THE fact that more under-developed negatives are sent us for criticism in winter than in summer indicates that all amateur photographers do not realize how important an influence temperature has on development.

Kodak roll films can be correctly developed in a Kodak Film Tank, and Premo Film Pack films can be correctly developed in a Premo Film Pack Tank, at any temperature between 45 and 70 degrees Fahrenheit, but, as a cold developer works slower than a warm one, they will not be correctly developed if they are developed for the same length of time at all temperatures between 45 and 70 degrees.

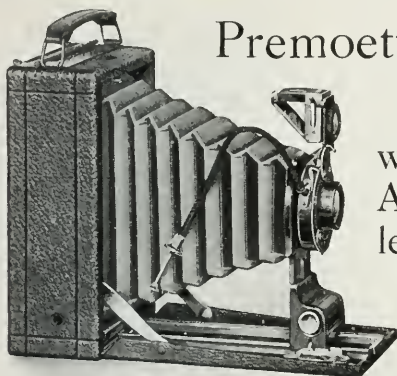
The length of time to develop at any given temperature is stated in the instructions that accompany all Eastman film tanks.

If you wish to get correctly developed negatives every time, always test the temperature of the developer with a thermometer and then develop the films for the length of time that the tank instructions recommend for the temperature.



*For any photographic information you
may desire address*

SERVICE DEPARTMENT, CANADIAN KODAK CO., LIMITED,
TORONTO, CANADA.



Premoette, Sr.

with Kodak
Anastigmat
lens *f*.7.7

THE Kodak Anastigmat lens gives to the sturdy, compact Premoette Senior an optical efficiency that will do justice to the best efforts of the advanced amateur. Yet the beginner finds it an easy camera to use.

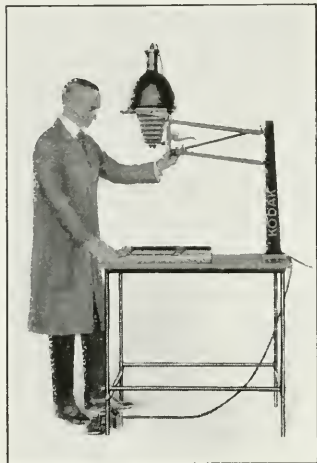
Every element in the Premoette Senior is of known reliability. The lens has no superior—its negatives are distinctively keen and crisp; the Kodak Ball Bearing shutter is simple and dependable.

This camera uses Premo Film Pack—twelve exposures without re-loading.

Premoette Senior with Kodak Anastigmat lens *f*.7.7 is available in three popular sizes: $2\frac{1}{2} \times 4\frac{1}{4}$ and $3\frac{1}{4} \times 4\frac{1}{4}$, \$18.00; $3\frac{1}{4} \times 5\frac{1}{2}$, \$22.00.

At Kodak Dealers'

Canadian Kodak Co., Limited
Toronto, Canada



Kodak Projection Printer

*An instrument that
simplifies the
making of large
prints from
small negatives*

THE Kodak Projection Printer is not merely an improved piece of apparatus. It embodies an entirely new idea—revolutionizes enlarging and changes it into a simple printing process—projection printing.

The idea is based on the scientific and mechanical accuracy of the instrument itself, and the process is simple and easy.

The image is always in focus—move the camera up or down and the image expands or shrinks but always remains hair sharp, so accurate is the automatic focusing mechanism.

The Printer will take negatives $3\frac{1}{4} \times 5\frac{1}{2}$, 4×5 or smaller and will make prints up to 24×32 inches.

Kodak Projection Printer, complete with Kodak Projection Anastigmat Lens *f*.6.3 and 100 Watt Stereopticon Mazda Lamp, is priced at \$225.00.

Send for booklet "Printing with the Kodak Projection Printer"

CANADIAN KODAK CO., LIMITED
TORONTO, CANADA



1A Graflex *Autographic*

Pictures

2½ x 4¼
inches

A HANDSOME little camera for the amateur who wants a Graflex in its most compact form, a Graflex that uses roll film and has the autographic feature.

Its lens, the Kodak Anastigmat *f.* 4.5, makes negatives of distinctive excellence, even under difficult light conditions; the focal plane shutter provides instantaneous speeds of $\frac{1}{10}$ to $\frac{1}{1000}$ of a second; the reflecting mirror simplifies good composition by showing the full image, right side up, until the instant of exposure.

Convenient to carry, the 1A Graflex is well suited to everyday use. And everyday pictures made with it are as superior as are the speed pictures which gave the Graflex its fame.

Graflex catalogue free by mail or at your dealer's

CANADIAN KODAK CO., LIMITED
TORONTO, CANADA

A superior lens on your old Kodak— Kodak Anastigmat *f.7.7*

IMPROVE your photographic equipment by the substitution of an anastigmat lens—the Kodak Anastigmat *f.7.7*—for the lens originally fitted to your Kodak.

Let your dealer send your camera to Toronto where the actual exchange must be made—we will accept the old lens as part payment for your new clean-cutting Kodak Anastigmat *f.7.7*.

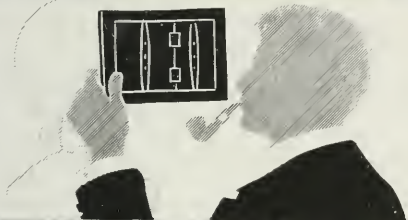
This exchange—made on all Kodaks equipped with Kodak Ball Bearing Shutters and on Premos as indicated below—offers the opportunity for anastigmat equipment to the multitude of amateurs who may have hitherto considered the first quality lenses too expensive.

COST OF THIS EXCHANGE

Kodaks or Premos equipped with single lens and	
Kodak Ball Bearing Shutter	\$12.00
Kodaks or Premos equipped with R. R. lens,	
Kodak Ball Bearing Shutter	10.00
Cameras with T. B. I. shutters will be fitted as above	
at an <i>additional</i> charge of \$6 00 for replacing	
T. B. I. shutter with Kodak Ball Bearing Shutter.	

NOTE—*The f.7.7 lens cannot be fitted to these Premos:*
Pocket Premo, 5x7 size of Premos Nos. 8 and 9,
Premo No. 10, Folding Cartridge Premos.

CANADIAN KODAK CO., LIMITED
 TORONTO, CANADA



Prints by Gaslight

Discriminating amateurs make
their prints on

VELOX

They know it will yield consistently satisfactory results.

CANADIAN KODAK CO., LIMITED
TORONTO, CANADA

At your dealer's



Books that are never finished

BULKY volumes of mathematical calculation that represent almost a decade of untiring research, cram the safe at the Kodak Lens Plant.

It is on these pages—a record of lens achievement—that the Kodak Anastigmat, subjected, of course, to relentless laboratory tests at each stage of its development, was born and perfected.

And still the work goes on. No book is marked “Finis” because true genius that created the Kodak Anastigmat is never satisfied.

“About Lenses” is a little booklet whose primary purpose is to give you information you ought to have in order to get better pictures. We should like to send you a copy—free.



Canadian Kodak Co., Limited
Toronto, Canada.

KODAKERY

A
MAGAZINE *for* AMATEUR
PHOTOGRAPHERS

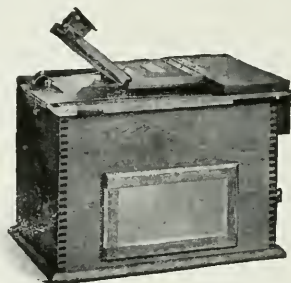


MARCH 1922



CANADIAN KODAK CO., LIMITED.
TORONTO, CANADA.

For Printing
Kodak
Amateur
Printer



THIS convenient apparatus is a combination of all the equipment necessary for making prints.

The top of the Printer constitutes the printing frame. It is equipped with an automatic masking device which holds the negative firmly until released and assures prints with white margins, any size up to 4×5 or $3\frac{1}{4} \times 5\frac{1}{2}$.

When the hinged frame is closed to make the exposure a 60-Watt Mazda Lamp is automatically turned on. A small red bulb within the box, supplied with the Printer, burns continuously to permit adjustments of negative and paper.

The removable window of orange fabric in the side of the box serves as a dark-room lamp for developing prints. The apparatus is furnished with $5\frac{1}{2}$ feet of electric light cord but without the Mazda Lamp.

CANADIAN KODAK CO., LIMITED

TORONTO, CANADA

A superior lens on your old Kodak— Kodak Anastigmat *f.7.7*

IMPROVE your photographic equipment by the substitution of an anastigmat lens—the Kodak Anastigmat *f.7.7*—for the lens originally fitted to your Kodak.

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Cameras with T. B. I. shutters will be fitted as above at an *additional* charge of \$6.00 for replacing T. B. I. shutter with Kodak Ball Bearing Shutter.

NOTE—*The f.7.7 lens cannot be fitted to these Premos: Pocket Premo, 5 x 7 size of Premos Nos. 8 and 9, Premo No. 10, Folding Cartridge Premos.*

CANADIAN KODAK CO., LIMITED
TORONTO, CANADA



PORTRAIT

Made with a Premo, by E. J. Brown

KODAKERY

A Journal for Amateur Photographers

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Vol. IX

MARCH, 1922

No. 5



PEASANT GIRLS NEAR PONT L'ABBE

Exposure $\frac{1}{2}$ second, stop f.22

CAMERA RAMBLES IN BRITTANY

BY ALBERT CRANE WALLACE

Illustrated with 34 Kodak Pictures

THAT part of France long known as Brittany (it was called Armorica before the Celts came from Britain) has always been attractive to picture-makers. The romantic north-western peninsula, with its sharply

indented coast, has remained very much like itself, holding fast to ancient customs and to ancient costumes, so that it has seemed particularly picturesque to the artist of the brush and the artist of the camera.



AT THE MOUTH OF THE GIRONDE

Exposure $\frac{1}{25}$ second, stop f. 22

The native costumes, very bright and startling, show no influence from the outside world's notion of fashion. Each district keeps its

peculiar cut and colors; and nowhere else in the world have legends been maintained with more obstinacy than in these old



OLD FARM HOUSES. BRITTANY

Exposure $\frac{1}{10}$ second, stop f.22



A PEASANT BEAUTY AT PONT L'ABBE

Exposure $\frac{1}{10}$ second, stop f.22



THE THRESHERS, BRITTANY

Exposure ½ second, stop f.22

Duchies flanking the English Channel.

Houses, churches and people all seem a little withdrawn from the rest of Europe. There is "difference" here, and plenty of it. The land has striking ranges of hilly country; the shore often makes one think of the rocky coast places of New Brunswick.

The people are "set" in their ways, but they are not inhospitable to admiring travellers. They are accustomed to artist folk and have a pride in the appreciation of their distinctive ways. French artists have made them familiar with the habits of picture-making people. The camera enthusiast has become familiar in recent years. Here, as elsewhere in France, Canadians are cordially recognized.

There is a tradition, too, that

the atmosphere is favorable to photography. The collection of pictures illustrating this bit of chat may well suggest that the tradition is well founded.

And shall we not recognize the fact that the beauty of her women is a marked trait of Brittany? looks has long been the glory of the The striking degree of their good Brittany girls and artists have loved to furnish convincing testimony. Quite naturally the very unusual costumes have heightened the effect of picturesqueness. With such quaint and rugged backgrounds young womanhood may be counted upon to suggest romance.



Autograph the date on the film, immediately after it is exposed.



IN NORTHERN WATERS

Made with a No. 0 Graphic, by R. Deichmann; f.8; $\frac{1}{110}$ sec.

PLEASING ENLARGEMENTS FROM EXTREMELY CONTRASTY NEGATIVES

DENSITY and contrast are words that are universally used in discussing negatives. Because they have often been used interchangeably, as though they were synonyms, it is necessary that our readers should know exactly what we mean when we speak of the density or contrast of a negative.

By density we mean the number of silver grains which have been blackened, over any given area, by the developer.

By contrast we mean the difference between the density of the darkest and the lightest portions of the negative.

The darkest parts of the negative are known as the highlights,

and the lightest (most transparent) parts as the shadows.

An extremely contrasty negative is one in which the highlights are so dense that, if it is printed long enough for recording the highlight detail, the shadows will be rendered so dark that all the detail in them will be obliterated, and if printed just long enough for suitably recording the shadow detail the highlight detail will not be made visible in the print.

Excessive contrast in negatives is often the result of over-development. This is apt to occur when any but experienced photographers develop negatives in a tray. It never happens, even when the

most inexperienced amateur develops negatives in any Eastman film tank, exactly in accordance with the instructions that are furnished with the tank.

Another cause of excessive contrast in negatives is under-exposure of an extremely contrasty subject, such, for instance, as a wooded ravine which is partly in bright sunshine and partly in dense shade.

Whatever the cause of excessive contrast in a negative may be, its influence on the finished picture can always be overcome to a great extent, and often wholly, by making enlargements on the right grade of bromide paper.

Both the surface finish and the color of the bromide paper have an

influence on the contrast of the picture. Rough surface and matte surface white papers, and also buff or cream tinted papers, give less contrast than glossy or velvet surface white papers.

The three grades of bromide papers that are especially suited for use with contrasty negatives are Standard B, Standard C and Royal.

Standard B is a smooth, matte surface white paper. It is suitable for making enlargements of any size.

Standard C is a rough surface white paper. While this is chiefly used for large work, that is, pictures that are larger than 8 x 10, it is equally suited for smaller



WINTER PASTURE

Made with a Premoette Jr., by A. B. Donnon

pictures, when sketchy effects are wanted.

Royal Bromide is a smooth, cream or buff colored paper, which has a slight lustre. When developed in the usual way this paper gives a black image on a cream tinted ground. By re-developing this black image with the Royal Re-developer, a sepia image on a cream tinted ground is obtained.

Because there is less contrast between black and a cream color, and still less contrast between sepia and a cream color, than between black and white, the photographer usually can obtain as soft effects as he desires by making enlargements from contrasty negatives on Royal Bromide paper.

Another method of making enlargements that will record as

much less contrast than the negative contains as the photographer may desire, is by taking advantage of the fact that bromide papers develop slowly and the image increases in contrast as development proceeds. By this method soft effects can easily be obtained, no matter what the color or the surface finish of the paper may be, by merely printing the enlargement long enough for recording the highlight detail and then stopping development as soon as this detail becomes visible. Shortening the time of development prevents the shadows from fully developing, with the result that the darkest tones will usually be gray instead of black in the finished picture. This method is used by many workers who wish to secure particularly soft effects in 8 x 10 and larger pictures.



SUNSET ON LAKE GENEVA
Made with a 3A Kodak



SUN AND SILVER

*Enlarged from Picture made with a 2A Brownie,
by Mrs. A. K. Ludy*



FROM THE ORCHARD

STILL LIFE PHOTOGRAPHY AN OUTLET FOR YOUR ARTISTRY

BY CARTOONIST BRADFORD

Illustrated by the Author

ATHING lives by what it feeds on. The simon pure camera enthusiast never has to brush cobwebs from his camera bellows, nor make excuses for stale chemicals or films. One door leads to another in the pursuit of his hobby, and subject matter is only limited by the range of his imagination.

There is no more telling way to express one's individuality and artistic feeling with the camera than by still life studies. Here we have a group of objects, the selection and arrangement of which are all our own.

The technical strength and appeal of a good still life picture are in the simplicity of subject matter,

the composition or arrangement of the subject and the photographic rendering of "texture" and tonal quality. If, in addition to this, you add a story-telling message, the whole becomes a lodestone that draws the eye and rivets the interest.

In the picture "In the Old Deacon's Study" the most impressive point is the human element suggested by the spectacles laid upon the open book. That the Deacon was interrupted is indicated by the filled glass; this, were it empty, would say: "Gone!" The full glass, however, fairly shouts that he is coming back—and he is no doubt, right now, fidgeting at the door, trying



IN THE OLD DEACON'S STUDY

to get rid of some friendly, albeit bothersome soul who is discussing the weather—or the Premier's Manifesto.

The good Deacon is evidently a believer in St. Paul's advice, "A little wine for thy stomach's sake"—and assuages his conscience by partaking of gin, instead of the higher-proof whiskey, thereby throwing dust in the eyes of the gentleman with the Forked Tail and that most potent accelerator, The Red Hot Pitchfork.

The fact that the cork is in the bottle shows that the Deacon is a temperate man, for were he in the habit of indulging "not wisely, but too well," the cork would be out,

like a latchstring! The venerable appearance of the books suggests that the Deacon is no "spring chicken," as old books are the associate of, if not old, at least well-matured minds. Here we have a little story, or explanation for the mind, which always unconsciously insists on the reason for a picture. This should be the function of a still life study.

The picture "Apples" is the typical still life essayed by "The Man-Afraid-Of-His-Camera"—the person so impressed by the "weighty" problems of photography that he has no "thinks" left for anything else.

Bosh! The film tank, tank



SHADOWS

powders, and time-and-temperature method formulated by the Eastman laboratories have solved all these problems and left nothing undone for you but the delightful part of conceiving and taking the picture.

The study "From the Orchard" has spontaneity, which "Apples" lacks because of too much geometrical arrangement.

I am forced to do my photographic work at night, like many camera workers, owing to other demands being made on my daylight time. Therefore I am obliged to use artificial light. It makes no difference

what the light may be. I use a kerosene lamp with equal facility as though it were a nitrogen filled electric bulb. As an instance of this, "On Guard" was made in the country, where kerosene lamps were the only illuminants. The lamp was placed as low as possible, to produce those big shadows, which really are the exclamation points of this picture. This was given an exposure of 11 minutes with stop 16. The cannon was a 45 calibre army pistol, camouflaged with a gun

shield made of cardboard. Both this and the cardboard rifles were inked black. The helmet on Johnny Bulldog's head was the top of a beer stein.

In "Shadows" an overhead lamp was used as a faint general



APPLES



ON GUARD

illuminant, while a candle made the shadow. Seven minutes at $f.11$ was the exposure time.

The old rule "Expose for the shadows and let the highlights take care of themselves" holds doubly true in this line of photography. Give ample exposure as

you need full detail, which makes for "texture" and roundness.

One really fine picture is worth many mediocre ones. When you have made a particularly fine study you will want to print it in a way to give it "class." Very well; print it on Royal Velox, then turn

it into a sepia with the Velox Re-developer, or, if you have an enlarger, enlarge it on Royal Bromide paper, then sepia tone it, and you will have the nearest thing to a rare old wood cut or an etching that you can imagine. Then you will agree that the possibilities in still life studies are not over-estimated.

EDITOR'S NOTE—In "Shadows" and "On Guard" Mr. Bradford has shown how pictorial interest can be added to still life records by making use of the shadows of the subjects. Big shadows can easily be secured by placing the subject close to the background and then placing the light where it will cast such shadows as are wanted.

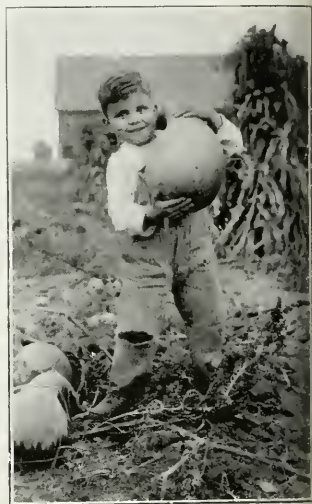


THE FAMILY

Made with a Premo, by H. T. Middleton



Made with a Premo, by L. F. Zwarg



Made with a 3A Kodak, by
L. Roy Frey



Made with a Graflex, by M. W. Reeves



Premo Picture, by Leopold Zwarg

OUT HOME

FRAGMENTS OF
DOMESTIC HISTORY
SHOWN IN
PICTURES



Made with a No. 2 Brownie by
Rachel Comstock



Made with a Graflex, by M. W. Reeves



Remo Picture, by Ira T. Bronson



Made with a Graflex, by E. J. Brown

THE IMPORTANCE OF PRINTING FOR THE RIGHT LENGTH OF TIME

THE length of time that the paper should be exposed, under a negative, to the printing light, is the first thing to determine in photographic printing.

Unless it is printed for the right length of time some or all of the

tones in the finished picture will be too light or too dark.

If it is considerably underprinted the picture will have too little contrast, and it will also contain too little detail.

Trying to increase contrast or



Printed Four Seconds

bring out detail by prolonging development is useless, because the image stops developing just as soon as all the silver on which the light has acted has been blackened by the developer. Leaving the print in the developer for a considerable time after development has stopped will fog it.

If it is considerably over-printed,

and fully developed, the picture will also have too little contrast, because all of the tones excepting the deepest shadows will be too dark.

Trying to correct over-printing by under-development will seldom give pleasing results on papers that are primarily intended for contact printing. This method is



Printed Six Seconds



Printed Eight Seconds

only recommended for securing especially soft effects in enlarging on bromide papers, which have different emulsions than other development papers.

When the printing is done by artificial light, the brilliancy of which remains practically constant, it is a very simple matter to quickly and accurately determine

the right length of time to print.

In printing we have four factors to consider. These are, (1) the distance from the negative to the printing light (this should not be less than the diagonal of the negative, (2) the length of time the print is exposed to the printing light, (3) the temperature of the developer (70 degrees Fahrenheit)



Printed Ten Seconds

and (4) the length of time the print is developed (the time stated on the instruction sheet that accompanies the paper).

By keeping factors 1, 3 and 4 constant we will have three known quantities, and from these known quantities we can easily find the unknown one by exposing a print.

If this print is too light in tone

we will know that it was not exposed long enough, and, if it is too dark, that it was exposed for too long a time. The remedy in either case is obvious.

Our illustrations show the results of working by the method we have recommended. By comparing the pictures it will be seen that the contrast, or brilliancy, of the



Printed Twelve Seconds

picture increased as the length of the printing time was increased—until the right length of time for recording the values of the negative tones was reached. Prolonging the printing beyond this time decreased the contrast, by darkening the lighter tones without making the deepest shadows any darker.

The illustrations also show that

the brilliancy of a picture depends upon its contrast. The amount of contrast that a picture should contain is largely a matter of taste, but, whatever the photographer's preference may be, he can, by the method we have explained, quickly determine the right length of time to print for securing the contrast he prefers.



Printed Twenty-Four Seconds

It must not be supposed, however, that the same grade of paper will give the same contrast with all negatives, for the contrast that can be secured in a print depends largely on the contrast of the negative.

Velox paper is made in three grades, each of which records a different range of contrast, and it

is only by using the grade of paper that fits the negative that a print can be secured which will record ample *detail* together with a range of contrast that adequately represents the difference between the tones of the negative.

Next month we will explain how to select the grade of paper that fits the negative.



Made with a Graflex, by Ira T. Bronson

JIMMIE MAKES USE OF THE SKY

IN looking through Jimmie's Brownie album one day, Mr. Hatch seemed particularly interested in some pictures of two boys out skiing. "These pictures show that you know something about composition although you may not recognize it by that name," he said.

"It's new to me" said Jimmie. "What is composition?"

"It has to do with the make-up

of the picture, whether it is a painting, a sketch or a photograph. All great artists are masters of composition and they carefully compose every picture they make. For our purposes we may consider that good composition means getting the subjects so placed that they will make an attractive picture. To know how to compose a picture is to know how to arrange a subject. Some subjects can't be



Made with a 2A Brownie

arranged, of course. We couldn't move two mountain peaks closer together or farther apart, but we might be able to photograph them from a viewpoint that would make the picture show the outlines of one nearer to or farther from the outlines of the other."

"You have to know what to get in the picture and what to leave out, isn't that it?" asked Jimmie.

"That's part of it," answered his father. "You must decide what is to be the principal object of interest. Then you must figure out how to emphasize this object, and how to show the less important ones in proper relation to it. Remember what your picture is about. If it is a story-telling picture, make it tell the story. For example, why did you make these two pictures?"

"I wanted to get some photo-

graphs of the Barber boys before they broke their necks," replied Jimmie.

"Well, then, since the boys were the principal objects it was necessary to make them more conspicuous than their surroundings so they would show plainly, by contrast, against the background. In such cases the background should always be quite a bit darker or lighter in tone than the subject, so that it won't 'swallow up' the principal object."

"You don't always have a variety of backgrounds to choose from, though," Jimmie remarked. "You get to a place where you want to take a picture and there you are."

"That's true but you can often improve the picture by giving a moment's thought to the background that you have available.



Made with a 2A Brownie

Suppose you were photographing some boys skating on a river. You would have a variety of backgrounds to choose from. If the boys were dressed in clothes that photograph dark or black, you should choose a light-toned background. Let's assume that the river bank was deep and dark. It would not make a good background for dark-toned objects because there would not be enough contrast."

"But if the boys wore light colored clothes the dark river bank would make a good background wouldn't it?" queried Jimmie.

"That's exactly the idea. Choose

a background that is different in tone. These pictures are good examples. The boys are the most prominent objects because they are so distinct against the sky. If you had stood much further to the left, the wooded hillside on the right would have been directly behind the boys and they would have been hard to distinguish from the background. The tones are too much alike. It's a good plan to use the sky for a background for subjects like this because any dark-toned nearby object that breaks through the skyline is certain to be prominent in the picture. The light wasn't very good when you made these, was it?"

"No, it was about three o'clock on a hazy afternoon," answered Jimmie.

"If the sun had been brighter the prints would show still more contrast between the boys and the sky, but the results here are pretty good. It is a wise plan to do just as you did for this sort of a picture. Place the subjects on a rise of ground or a hilltop and take the pictures from a slightly lower level, then they will appear clearly outlined against the sky."

"That explains Jack and Jill," grinned the boy.

"What do you mean?" asked his father.

"Well, when Jack and Jill went up a hill to get their pictures taken, Jack fell down and broke his crown and Jill was badly shaken."

"Terrible," said Mr. Hatch.

"It was pretty tough on 'em," agreed Jimmie.

"I mean your rhyme," replied his father.



WE THREE

Made with a No. 9 Premo, by W. T. Adderly

SERVICE DEPARTMENT TALKS

THE FINGER IN FRONT OF THE LENS

WHEN making snapshots by pressing the shutter lever, with the camera held in the hands, the fingers should be underneath the camera so that the lever will be pressed with the thumb.

The objection to supporting the camera with three fingers only is, that this method leaves one finger (usually the forefinger) free, and, having no work to do, it sometimes gets in front of the lens.

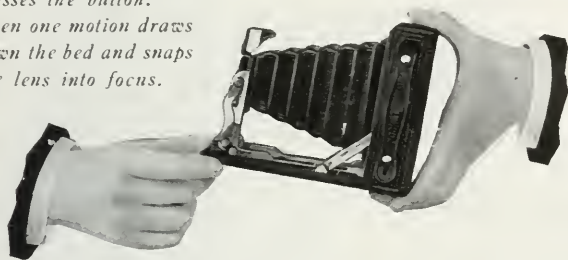
When a finger, or anything else, is in front of and close to the lens it prevents the lens from seeing some part of the subject, with the result that that part of the subject will be represented by a black patch, instead of by an image, in the picture.



*For any information you may desire regarding
amateur photography address*

SERVICE DEPARTMENT, CANADIAN KODAK CO., LIMITED
TORONTO, CANADA.

*The camera springs
open when the thumb
presses the button.
Then one motion draws
down the bed and snaps
the lens into focus.*



THE POCKET PREMO

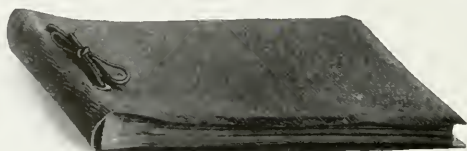
is a quick-action camera.
Within a few seconds after
it leaves your pocket it is
ready for the picture. And
it makes good pictures,
 $2\frac{1}{4} \times 3\frac{1}{4}$ inches in size.

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LET the Kodak Album keep your prints clean and in order permanently—that is the place for them, not scattered about in drawers or pigeon holes.

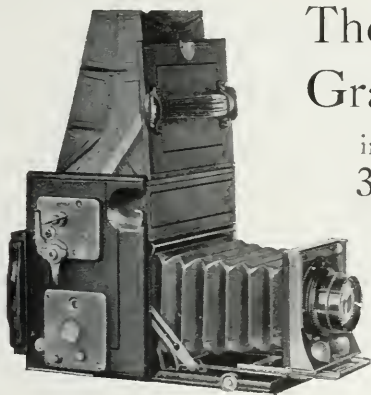
Attractively designed, finely finished, flexible covers of genuine leather, loose-leaf style, fifty black leaves, binding constructed durably—yet simply, to facilitate removal or insertion of leaves—these features distinguish the Kodak Album.

Mount your prints with Kodak Dry Mounting Tissue—the *entire* print sticks fast to the album leaf *without curling*. And it's very easy—just fix tissue to print, trim, lay print on album leaf, press with a warm flat-iron—that's all, no muss or fuss.

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The Compact Graflex

in two sizes
 $3\frac{1}{4} \times 5\frac{1}{2}$, 5×7

*All the Graflex
advantages in the
smallest possible space*

FIRST, the fundamental features of Graflex excellence—the reflecting mirror, the focal plane shutter, the Kodak Anastigmat lens *f*.4.5.

Then the added advantage of using film packs, roll film, cut film or plates as you choose. The Compact Graflex takes the Graflex Plate Holder, Graflex Film Pack Adapter, Graflex Magazine Plate Holder, Graflex Cut Film Holder, Graflex Roll Film Holder.

Catalogue free at your dealer's or by mail

Canadian Kodak Co., Limited
Toronto, Canada



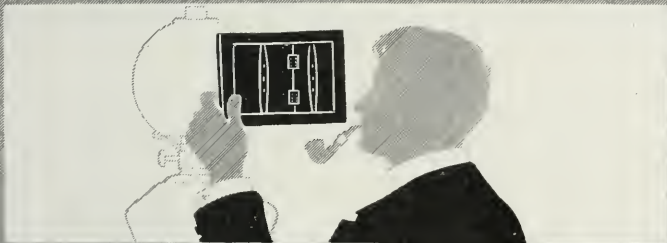
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EQUIP your camera with the Kodak Portrait Attachment and you can readily secure portraits that suitably fill the picture area in sharp focus at close range.

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"At Home with the Kodak" tells you how to make best the Kodak story of you and yours—Kodak portraits for example. Get a copy of this interesting booklet—it's completely illustrated, replete with diagrams, and free—*from us or your dealer.*

CANADIAN KODAK CO., LIMITED
TORONTO, CANADA



Prints by Gaslight

The best print you can get on

VELOX

is the best print you
can get.

CANADIAN KODAK CO., LIMITED

TORONTO, CANADA

At your dealer's



When light rings flash their warning

EACH Kodak Anastigmat is fashioned to conform to a master glass that is really another lens of equal but opposite curvature. The master glass represents the perfect optical curve and the lens must fit it exactly—*exactly*.

The test to determine when this result has been secured is a very delicate and a very pretty operation. If, when the expert brings the two lenses into contact, vari-colored light rings appear, some slight difference in curvature must exist. Even though this difference may be infinitesimal, the light rings flash their warning.

It is only when careful readjustment on the polishing machine has successfully corrected this error and the form of the light rings proves this fact, that the lens is good enough to become a Kodak Anastigmat.

Do you know how a lens forms an image or why cameras have different kinds of lenses? Both of these questions, and others, you will find answered in a complete and interesting fashion in the little free booklet "About Lenses." We should like to send you a copy.



Canadian Kodak Co., Limited
Toronto, Canada.

KODAKERY

A
MAGAZINE *for* AMATEUR
PHOTOGRAPHERS



APRIL 1922



CANADIAN KODAK CO., LIMITED.
TORONTO, CANADA.

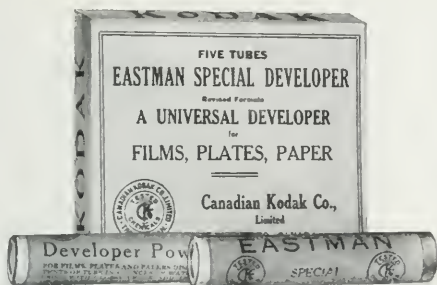
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Cameras, particularly Kodaks, were not advanced in price in proportion to other goods during the war. And now there is not merely a nominal reduction—many models are back to pre-war prices.

Our new prices do not merely reflect reduced costs already accomplished—they are made in anticipation of cost reductions in the months to come. In no case is there any cheapening of the product—except in price. At whatever cost, Kodak and Graflex quality is always maintained.

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Eastman Special Developer

ITS use is universal—for films, plates, Velox and other developing out papers.



*It's universally right, too—
that's what this seal on each
tube stands for.*

Price, 6c. per glass tube.

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SNOW-TIME ADVENTURERS

Made with a No. 2 Brownie, by Mrs. A. K. Ludy

KODAKERY

A Journal for Amateur Photographers.

PUBLISHED MONTHLY—YEARLY SUBSCRIPTION, 60 CENTS; SINGLE COPIES, 5 CENTS

VOL. IX

APRIL 1922

No. 6



THE OLD GROVE SCHOOL

*Made on a moonlight night, with a 2A Brownie, by Miss Sarah H. Moss.
Exposure 30 minutes with largest stop*

BY THE LIGHT OF THE WINTER'S MOON

WE occasionally find some beautiful spots on the landscape that persistently refuse to smile for the camera unless they are photographed at a particular time.

Some of these wear their most

winning smiles in early morning, some in late afternoon, and others appear most beautiful on moonlight nights.

But whatever the month and whatever the hour of day or night that these places prefer to be

photographed, they will, if visited at the right time, do their part toward the making of an attractive picture. And it is just these over-particular subjects—the ones that are so partial to times and seasons—that will make the kinds of pictures which may justly be called unique.

A case in point is "The Old Grove School," a subject that disappointed Miss Moss (who made the picture shown on page 3) every time she photographed it by daylight. It stood facing north, so that the sun could not see its face in summer time; and it nestled in dense shade, beneath tall trees, for the greater part of the year. The only hope of securing a satisfactory picture was in watching for the chance to take it at some unusual time—a time when the light conditions would make it possible to secure a pictorial, even if not a detailed, record of the scene of which the school was a part.

About half past two o'clock one February night Miss Moss awoke and heard the drip of melting snow. She went to the window,

saw the little school house slumbering in the moonlight, and instantly recognized the pictorial possibilities of the scene. After studying it for some minutes she went out and made a 30 minute exposure, as the moon was slowly sinking toward the skyline in the west.

Owing to the fact that the sky is always darker, on even the brightest night, than it is during the daylight hours, it is easy to secure types of pictures by moonlight that it would be difficult or wholly impossible to secure by daylight.

By giving 600,000 times as long an exposure by the light of the full moon as would be needed for suitably recording the subject by sunlight, almost a daylight effect can be obtained, but to secure a real night effect it is necessary to give only $\frac{1}{4}$ to $\frac{1}{8}$ of this exposure.

The data under Miss Moss' picture tells the exposure that her negative received with a single lens box Brownie. Practically the same effect could have been secured with stop 4 on rectilinear, or stop f.8 on anastigmat lenses, with a 15 minute exposure.



HARVESTING IN ENGLAND

Made with a 3A Kodak



A SPRITE ON WHEELS

Made with a Graflex, by Henry C. Brewster



FIG. 1—Made on *Special Velox*

SELECTING THE PAPER TO FIT THE NEGATIVE

IN the days of printing-out papers, when it took from several minutes to several hours to print a single picture, photographers had to make negatives that would fit the paper. Printing-out papers were made in only one degree of contrast and, unless the negative had the range of contrast for which the paper was adapted it would not produce good prints.

With modern development papers a whole batch of pictures can be printed, developed, fixed and washed in a few hours and, as these papers are made in different grades, by which is meant different degrees of contrast, the photographer no longer has to make negatives of a certain range of contrast,

because he can select the paper to fit the negative.

Velox papers are made in three grades, which are known as Special, Regular and Contrast. Each grade will render a scale of tones that ranges from black to white, but the number of tones that can be recorded between the lightest and the darkest depends on the grade of paper that is used. Special Velox will record more tones than Regular, and Regular Velox will record more tones than Contrast.

Assuming that we wish our pictures to record as nearly as possible the scale of tones that the negative contains, we should use Special Velox for negatives that have many tones, Regular Velox for negatives that have few tones



FIG. 2.—Made on Regular Velox

and Contrast Velox for such negatives as have too few tones for making sufficiently contrasty prints on Regular. In other words, we should use Special for negatives of average contrast, Regular for negatives that have little contrast and Contrast for negatives that are so lacking in contrast that they will not make brilliant prints on Regular.

If a print is made on Contrast Velox from a negative that has many more tones than this grade of paper can render, the result will necessarily be a picture which has fewer tones than the negative, and if, on the other hand, a print is made on Special Velox from a negative that has many less tones than the paper can render, the result will be a picture which shows much, or even all, of the detail

there is in the negative, but which will not have enough contrast between the tones. If printed just long enough for rightly recording the values of the light tones the picture will have gray instead of black shadows, while if printed long enough for rightly recording the dark tones the light ones will be gray.

The photographs from which our illustrations were made show the differences in the results obtained by making prints on Special, Regular and Contrast Velox, from a negative that has several tones.

Owing to the limitations of the halftone reproduction process it is, however, impossible to present illustrations that show, tone for tone, exactly what these photographs do contain. The print on Special Velox, from which Fig. 1



FIG. 3—Made on Contrast Velox

was made, most faithfully records the tones that the negative shows. The print on Regular Velox, represented by Fig. 2, records fewer, and the one on Contrast Velox (Fig. 3) records still fewer of the negative tones. Some of the tones that are recorded in Figs. 2 and 3 are rendered lighter, while others are rendered darker, than they are in the negative, thus increasing the contrast of the picture.

We do not recommend that photographers should always use the grade of paper that will record the same contrast that the negative shows, because some negatives have too little and others too much contrast. In such cases it is best to use a grade of paper that will record either more or less contrast than the negative contains.

The grade of Velox to use with any particular negative depends on the contrast of the negative and also on the taste of the photographer. Some workers prefer pictures that have little contrast, while others prefer pictures having strong contrasts, but, whatever the preference of the photographer may be, he can, by using the right grade of Velox, make pictures which will record the degree of contrast he prefers, from any negative that will make a good print.



Shadows on the snow can be recorded with one-half the exposure that is needed for recording detail in foreground objects on summer landscapes.



THE CALM OF THE WOODS

Made with a No. 1 Special Kodak, by Walter W. Pierce

THE PERSPECTIVE OF THE PICTURE



FIG. 1—Made from a Nearby Viewpoint with Short Focus Lens

WE have often read statements which conveyed the impression that long focus lenses give good perspective, that is, good drawing, but that short focus lenses do not, and that, in consequence, short focus lenses should never be used when good perspective is desired in the picture.

From this one would infer that the perspective is determined by the focal length of the lens. The fact of the matter is that the perspective is determined, not by the focal length of the lens, but solely by the point of view from which the lens is required to make the picture.

All lenses, no matter what their focal length may be, will render the

same perspective from the same point of view; but lenses of different focal lengths will not make the same sized images from the same point of view, because the size of image that a lens can make depends on its focal length and the distance it is placed from the subject. At any given distance from the subject a long focus lens will make a larger image of it than a short focus lens can make.

The misconception that short focus lenses necessarily give poor

perspective has resulted, no doubt, from the practice of placing the camera very close to the subject, in order to secure a large image of it, regardless of whether the perspective that the eyes saw from the viewpoint of the lens was pleasing or not.

Fig. 1 of our illustrations was made with a short focus, and Fig. 2 with a long focus lens. The perspective of Fig. 2 is pleasing while the perspective of Fig. 1 is not; but this difference, in the drawing of these two pictures, is not due to the difference in the focal lengths of the lenses. It is solely due to the point of view from which the pictures were made—Fig. 2 being made from a distant viewpoint from which the perspective looked

pleasing to the eyes, while Fig. 1 was made from a nearby viewpoint from which the perspective did not look pleasing to the eyes.

The fact that the perspective is determined by the point of view from which the picture is made, and not by the focal length of the lens, is shown by a comparison of Fig. 3 with Fig. 2. Fig. 3 was made with the short focus lens that made Figs. 1 and 4, but the picture was taken from the same viewpoint as Fig. 2, which was made with the long focus lens. Fig. 3 is an enlargement, made from the negative from which Fig. 4 was printed.

While no one would be apt to make a portrait of a subject placed in such an attitude as is shown by our illustrations, many do, however make *full figure* portraits at very short range, with the subject sitting, hands in lap and knees pointing directly toward the lens. The result is a caricature of the human form which is usually more offensive than amusing.



FIG 2—Made from a Distant Viewpoint
with Long Focus Lens



FIG. 3—Enlarged from the Negative that
made the Picture on page 12



FIG 4—Made from a Distant Viewpoint
with Short Focus Lens

From what we have shown, it is evident that the way to obtain good perspective in our pictures is to make them from the viewpoint from which the desired perspective can be seen.

focal lengths, for we can, with any compact, light weight hand camera, secure negatives from which we can print pictures that will combine the perspective we want with the size of image we want.



LEVELING THE CAMERA

SANDY, stoney or boggy ground, cement walks, smooth pavements and steep hillsides are places where it is sometimes impossible to make a tripod stand straight.

The Optipod which fits all tri-

pods, has a ball and socket joint, with which the camera can always be leveled, no matter how much the tripod tilts.

With the Optipod the camera can also be pointed directly downward, or at any angle desired.

For most subjects the perspective will be pleasing from some viewpoint which is near enough to the camera so that the size of image which the lens makes will be as large as it should be for the size of picture that the camera makes, but if it should happen that the image is not as large as is wanted, an enlargement of any size can be made from the negative.

It is no longer necessary for us to go afield with a heavy, long bellows camera and lenses of different



*Made with a Graptex,
by G. W. French*



*Made with a No. 2 Brownie,
by Mrs. Elizabeth Miller*

IN SUMMER TIME



THE HAIR CUT

Made with a Premo, by E. W. Donaldson

THE REGULAR EDITOR IS OUT OF TOWN

AL McGINNIS lounged amid easels and ash trays in Joe Blount's studio apartment, looking over Kodak pictures snapped seven years before on their trip around the world. They always spoke of it as their trip around the world, although they never got beyond Honolulu. But from New England to Hawaii and back gave them innumerable picture opportunities.

McGinnis studied each print carefully trying to remember where it was taken and what it represented. Joe Blount had coiled himself, oriental fashion, on a

window seat and was pulling weird chords out of a guitar, scanning the pages of a magazine at the same time.

"Say, Joe, why didn't we keep some kind of a record of these pictures?" asked McGinnis. "I can't for the life of me remember what they are or where."

But Joe, who had been the self-styled official photographer of the expedition, kept on with his guitar and his magazine.

"I said that if you were anything but an artist," shouted McGinnis, "you'd have had enough

sense to keep some kind of a record of what these pictures are."

Whereupon Joe began to hum a vague tune.

"This picture for example, is perfectly wonderful," continued McGinnis, "but what's that building I'm standing in front of?"

But just then Joe Blount, still

strumming and humming, espied in his magazine an Autographic Kodak advertisement, which he immediately paraphrased and set to music:

"Let the negative remember—
Was it April or September?
Was it Wakiki or Nova Scotia's clime?
With the Kodak, date and title,
Information that is vital,
Can be written on the film at the
time."



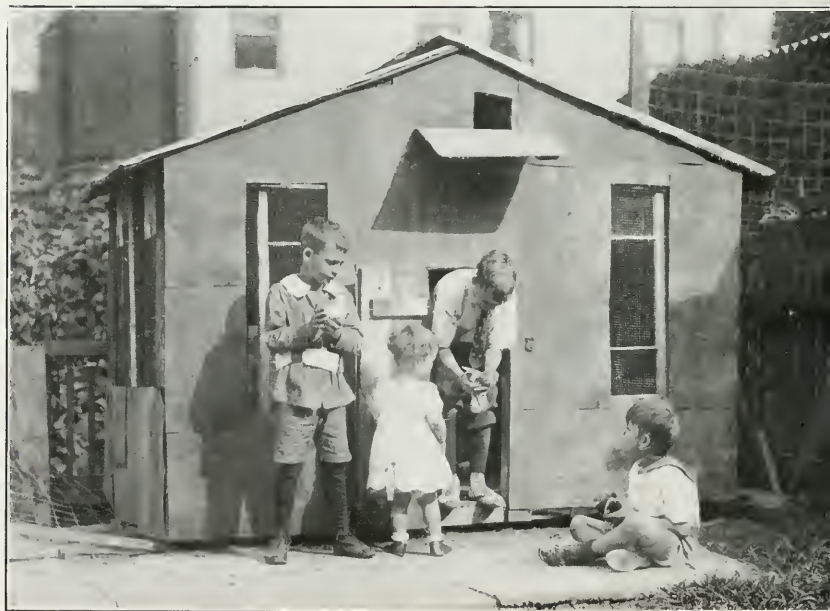
Made with a Premo, by W. T. Adderley

FRIENDS—ON TW

BIRD AND ANIMAL
KODAK, BROWNIE



ABOVE—Made with a Premoette Jr., by A. B. Donnan. ON LEFT—Made with a No. 2 Folding Brownie, by H. M. Davock, BELOW—Made with a Premo, by Leopold Zwarg.



FEET AND FOUR

DIES AS SHOWN IN
PREMO PICTURES



ABOVE—Made with a No. 2 Brownie, by Geo. Loveland. BELOW—Made with a No. 12 Premo, by C. N. Wolever.



Made with a 3A Kodak, by M. J. Cully.





Photographed from an Aeroplane with a No. 3 Special Kodak, by T. W. Kilmer, Jr.

FROM THE CLOUDS WITH A KODAK

BY T. W. KILMER, JR.

THE Kodak has been my constant companion during my wanderings on the earth, but it was only this year that it soared with me in my aeroplane journeys.

Had I known how easy it is to take pictures from the air, I should have used it long ago for that purpose. My head was full of long-focus lenses, specially built cameras, screens, panchromatics, all of which I had read about with eagerness in the literature of air photography.

It happened that one day this past fall I had my No. 3 Special Kodak along with me on one of my trips and just for fun I exposed a roll of sixes with lens wide open,

no filter of any kind, and the plane making ninety miles an hour. The shutter speed was $\frac{1}{150}$ of a second, three o'clock in the afternoon on September fifth.

The accompanying photograph shows the result. I am an amateur photographer and the result of the experiment agreeably surprised me.

The Eastman roll-film was tank developed and an enlargement made with the Kodak Enlarging Outfit on glossy paper.

Flying has come to stay and it is going to be just as natural for the pilot to take along a Kodak as it now is for the autoist.

About the only difference is that the autoist must contend with

clouds of dust—the pilot with plain clouds.

EDITOR'S NOTE: A problem that always confronts photographers, when making pictures from a motor driven aircraft, is preventing the vibration of the rapidly moving machine from blurring the picture.

It has been found that by hold-

ing the camera in the hands, and making the exposures without resting the arms on the aircraft, the photographer's body would serve as an absorbing medium so that very little of the vibration would be transmitted to the camera during the $\frac{1}{100}$ of a second, or shorter, exposures that are needed in aerial photography.



THE KILMER KIDS

YEARS ago, the picture reproduced below was a prize winner in one of our photographic contests. Other pictures, equally successful followed, but they were all made about the same time so that the boy was

always a little boy and the girl still a youngster.

The photographs were made by Dr. Theron W. Kilmer of New York, and the two "hopefuls" were his children. There was something appealing about them, even



A PRIZE WINNING PICTURE OF LONG AGO



T. W. KILMER, JR.

In the Aeroplane from which he made the Kodak Picture shown on page 18.

in pictures, and they soon were looked upon by the Kodak Advertising Department with an air of proprietorship and affectionately designed as "the Kilmer Kids." Somehow it never occurred to us that they would grow up. They were still the Kilmer Kids until—

The other day we received a photograph made with a Kodak from an aeroplane. It was a striking bit of photographic work and showed that the Kodak makes the most of its opportunities, even when called upon to "shoot" from the clouds (See page 18). The young man who made the picture was T. W. Kilmer, Jr. Kilmer? Kilmer? What, the Kilmer Kid? We ransacked the files for Exhibit One—the little boy and the toy boat. A little chap like that

riding around making Kodak snapshots in an aeroplane? It could not be. A second picture, overlooked when we opened the letter, dropped out of the envelope. It showed T. W. Kilmer, Jr. at the wheel of his Sperry Messenger. We gasped. It didn't seem possible—but it was.

Years steal by so quickly that, almost before we know it, childhood is around the corner out of sight unless we can bring it back with pictures. Pictures of the children never grow up. "Keep a Kodak Story of the Children" is much more than an advertising slogan—as any parent knows.

And that reminds us. We'll get out that Album of little Dora, aged six, tonight. She goes back to college tomorrow.



In Summer



In Winter

TWO STORIES FROM THE MOUNTAINS

*Upper made with a No. 1 Special Kodak. Lower with a Graflex,
by Geo. H. Hardy.*



FIG. 1

JIMMIE GETS A GHOST PICTURE

MR. HATCH stopped laughing and looked at his son Jimmie, aged fourteen, home from boarding school for the week-end.

"Young man, I've always told you to practice economy, but you never heard me suggest that you make two exposures on one section of film, did you?"

"How did that picture get into the album?" asked Jimmie, surprised. Mr. Hatch had found in the boy's Brownie album a print made from a doubly exposed negative. (Fig. 1) "I call it the ghost picture."

"How did you happen to make such a mistake?" queried Mr. Hatch. "It's such an easy one to avoid."

"I forgot to turn the winding key after making the first exposure. That building is right beside the skating rink in the park and

it's all fixed up with benches and a fireplace, and when we go skating we stop there to rest and get warm. The boys all call it the warming oven.

"The first time I went to the park to skate I wanted a picture of the warming oven. After I made the first exposure I decided that I should have left out that telephone pole. So I pointed the Brownie more toward the right until the finder showed that the telephone pole was out and the driveway in. But I forgot to turn the film before making the second exposure."

"You mean you forgot to turn the film after the first exposure," corrected Mr. Hatch. "The only safe way is to get the habit of turning a new film into place immediately after each exposure. Then you'll always be ready for business whenever a picture op-

portunity comes along. You'll never have to bother with winding the film before making an exposure if you wind it as soon as you have taken the preceding one.

"I've made mistakes, too, of course. When I first began to practise law I bought a second-hand typewriter. It was quite different from the new machines—you couldn't see what you were writing as you can on the modern visible ones. Sometimes, after coming to the end of a line I'd slide the carriage back but forget to turn the paper ahead. So I pounded a new line right on top of the last one."

"You got twice as many words to a line that way, didn't you?" asked Jimmie.

"Yes, but you couldn't read any of them. I spoiled many a letter that way until I finally made it a habit always to turn the paper ahead immediately after completing a line and I never

had any such trouble after that.

"When you put these two exposures on the one film, you lost both pictures and wasted one section of film. The film doesn't cost much, of course, but the pictures might be priceless some day. It wasn't so serious this time because you made a third exposure and got a good picture I see. How did you happen to notice your mistake?"

"I saw that the film was still set at number one when I began to turn a new section into place after the second exposure. I knew then that I'd piled one exposure on top of the other, so I made another (Fig. 2). I don't know why I put that double exposure print in the album, but every time I see it I'll be reminded that I must wind a new section of film into place immediately after every exposure," said Jimmie, "unless I want a collection of ghost pictures."



FIG. 2



THE DISTANT HILLS

Made with a 3A Kodak, by John Haberstroh

A UNIVERSAL DEVELOPER

AS soon as development papers came into universal use a demand arose for a developer that was suitable for developing both negatives and prints. This was before tank development was introduced, in the days when negatives were always developed in a tray.

The standard developer for negatives is pyro, but pyro is not suitable for making prints.

The standard developer for prints is Elon-Hydrochinon, commonly called Elon-Hydro, but neither Elon-Hydro nor M. Q. solutions are considered as satisfactory as pyro for making negatives.

Because the developers we have mentioned are best adapted for one purpose only, they do not

possess all of the characteristics that a developer must have in order to be considered a universal developer.

In hopes of finding a developer that would make prints equal in quality to those developed with Elon-Hydro, and also make negatives that would have a better printing quality than had previously been obtained from any developer that was capable of making high-grade prints, we carefully tested several kinds of developers and found that the Eastman Special Developer best met the requirements.

A comparison of prints, made from the same negative, showed that no difference could be detected in prints developed with Elon-Hydro and those developed with

the Eastman Special Developer. It was found that the best results were obtained when both these developers were used at a temperature of 70 degrees, but that when the temperature was lowered to 60 degrees (thus necessitating longer development) the Eastman Special Developer was least liable to stain the prints.

Another advantage of the Eastman Special Developer is that those whose fingers are irritated by Elon-Hydro rarely experience this inconvenience when using the Eastman Special Developer, which does not stain the finger nails.

Negatives of the same subject, that were developed by the tray method, some with pyro and others with the Eastman Special Developer, were also compared, and it was found that while the pyro developed negatives had slightly the best printing quality, those developed with the Eastman Special Developer possessed a printing quality that was superior to any that had been obtained from any other developer that was at the same time entirely suitable for use with paper.

It should be borne in mind, however, that neither the Eastman Special Developer, nor any other developer that is suitable for making prints, is recommended for developing negatives in the tank. Tank development is based on the

action of pyro, of which the Kodak and Premo Tank Powders are composed.

These facts lead to the following conclusions: the Eastman Special Developer is the nearest approach to a universal developer that we know of. It is perfectly adapted for developing prints and it will also produce splendid results when used for developing negatives in the tray.

The photographer who prefers to develop negatives in a tray (some workers do not use a tank because they cannot resist the fascination of watching a negative develop in a tray), and the photographer who wishes to always have on hand a developer that is



PLAYING THE KOTO

Made with a Kodak by Ken Siktne

adapted for so wide a range of work as the development of negatives, lantern slides, Velox, bromide and other papers, will find the Eastman Special Developer

splendidly suited to his needs. It is put up both in glass tubes and in paper packets and can be obtained from all Kodak dealers.



MIXING THE PYRO DEVELOPER

THE pyro developer that is used for developing films is composed of pyro, sulphite of soda, carbonate of soda and water. The pyro is the developing agent, the carbonate is the energizer or accelerator and the sulphite is the preservative.

The function of the developer is to convert into metallic silver the silver salts on which the light has acted; but neither pyro nor any other developing agent, when used alone, can do this. Nearly all developing agents must be in an alkaline solution, in order to be efficient, and the alkali that is most generally used is carbonate of soda.

Water contains air and air contains oxygen. Pyro, like all other developing agents, has an affinity for oxygen, and when pyro is dissolved in plain water it absorbs the oxygen from the air that is in the water. Since the energy of pyro is increased when it is in solution with carbonate of soda it would quickly spoil if there was nothing but pyro and carbonate in the developer.

When sulphite of soda is added to the developer it acts as a preservative of the pyro, because like

pyro it has a great affinity for oxygen, and as a well-balanced pyro developer always contains much more sulphite than pyro, the sulphite absorbs the greater part of the oxygen, so that the pyro can perform its function before it becomes too much oxidized.

In mixing the pyro developer it is, therefore, important to protect the pyro against excessive oxidation by dissolving the sulphite and the carbonate before adding the pyro to the solution.

The pyro developer not only develops the silver image but also deposits a stain image in the negative and as this stain image is an oxidation product the developer should not be used a second time.

All the Kodak and Premo tank powders contain two packages of chemicals. The sulphite and carbonate are in the thick package and the pyro is in the thin one. By thoroughly dissolving the contents of the thick package first, then adding and thoroughly dissolving the contents of the thin one, and using the developer promptly after it is prepared, you will have a developer that has not been weakened by oxidation.



IT'S DINNER TIME

Made with a No. 2C Folding Autographic Brownie.

SERVICE DEPARTMENT TALKS

CONSTRUCTIVE CRITICISM

CONSTRUCTIVE criticism points out our mistakes and tells us how to avoid repeating them.

In photography, as in all other fields of human endeavor, we can learn much from constructive, criticism.

All photographers, no matter how skillful they are, may, when undertaking some branch of work with which they are not familiar, obtain results with which they are not wholly satisfied. If they do not know just why they are not satisfied they need, and will appreciate, constructive criticism.

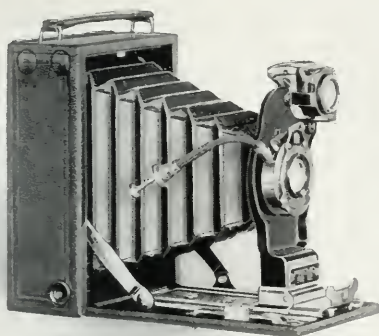
Extending such criticism to those who ask for it is one of the functions of our Service Department.

If you care to have us criticise your negatives and prints we will gladly do so, without charge, in a way that, we believe, will be of practical help to you.



*Should there be any information that you desire
regarding amateur photography, address*

SERVICE DEPARTMENT, CANADIAN KODAK CO., LIMITED
TORONTO, CANADA



Premo No. 12

Pictures
 $2\frac{1}{4} \times 3\frac{1}{4}$
inches

FOR the amateur who wants a pocket camera with which he can use plates and film interchangeably, and focus on ground glass or with scale and finder as he chooses.

Premo No. 12 ranges in price from \$20, when fitted with Kodak Ball Bearing Shutter and Rapid Rectilinear lens, to \$68, when fitted with Optimo Shutter and B. & L. Tessar Series IIb lens *f*.6.3. Regularly equipped for plates and film packs, but Graflex Roll Film can be used in a special roll holder. A handsome camera, covered with fine-grain leather and well made throughout.

*At Kodak Dealers**

Canadian Kodak Co., Limited
Toronto, Canada

FOR printing on Velox or other developing out papers, the magnesium ribbon—12 feet of it—contained in the Kodak Magnesium Ribbon Holder provides illumination for 300 average exposures.



The holder furnishes a convenient standard for timing the exposure of prints. Light a given length of ribbon and the flame goes out automatically when it burns down to the holder, thus stopping the exposure.

To supplement daylight for photographing dark interiors, as well as for copying, and printing lantern slides, the Kodak Magnesium Ribbon Holder is emphatically handy and useful.

Price, 35c.

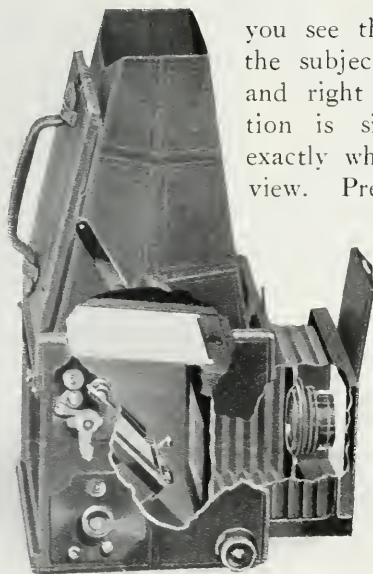
The best method of igniting the ribbon is by means of an alcohol lamp, specially constructed for this purpose. *Price, 35c.*

CANADIAN KODAK CO., LIMITED

TORONTO, CANADA

All Dealers'

In the Hood of a Graflex



you see the reflected image of the subject, full negative size and right side up. Composition is simplified—you know exactly what is included in the view. Precise focusing is easy—as you turn the focusing button you watch the image and know when it is hair-sharp.

The principal is simple, as the illustration shows. A tilted mirror reflects the image to a ground glass at

the base of the hood. When the shutter is released the mirror swings upward, out of the way.

The reflecting mirror is but one of the features that have made the Graflex the camera that does the difficult things in photography and does them well.

Graflex catalogue at your dealer's or by mail.

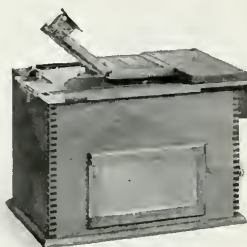
Canadian Kodak Co., Limited
Toronto, Canada



Kodak Film Tank

With the Kodak Film Tank, anyone can *consistently* get negatives that are developed correctly. It's a simple process—no dark-room, no experience, no experimenting.

Price, \$3.00 up



Kodak Amateur Printer

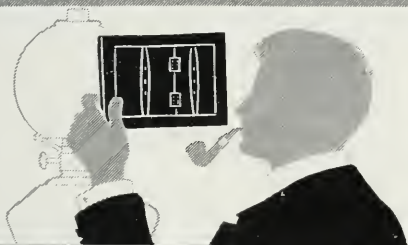
Compact and convenient, the Kodak Amateur Printer combines all the apparatus needed for printing.

Price, \$10.00

First develop with Kodak Film Tank, and then print with Kodak Amateur Printer—that's the combination for results from film to finish.

CANADIAN KODAK CO., LIMITED

TORONTO, CANADA



Prints by Gaslight

VELOX

Contrast Velox for extremely flat negatives.

Regular Velox for flat negatives.

Special Velox for average negatives and contrasty negatives.

If it's a good negative it deserves Velox.

If it's a poor negative it *demands* it.

CANADIAN KODAK CO., LIMITED

TORONTO, CANADA

At all dealers'



Aiming at a Common Bull's-Eye

STARTING from the rough glass, the Kodak Anastigmat is Kodak made. The organization that makes the camera also makes the lens. Obviously, then, the lens expert does not have the generality "camera" in mind but rather a specific model of known capabilities in a specific size and with a specific shutter. The camera builder and the lens maker are aiming—not at a common target—but at a common bull's-eye.

As a result, on the camera to which it is fitted, any Kodak Anastigmat at its indicated speed is *at least* the equal in depth, sharpness and flatness of field of any anastigmat made, regardless of price.

The better you understand your lens, the better will be your pictures. You will find our little booklet "About Lenses" interesting—and worth while. It's free—and we should be glad to mail you a copy.



Canadian Kodak Co., Limited
Toronto, Canada.

KODAKERY

A
MAGAZINE *for* AMATEUR
PHOTOGRAPHERS

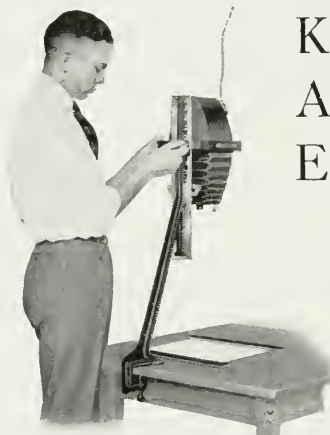


MAY 1922



CANADIAN KODAK CO., LIMITED.
TORONTO, CANADA.

A New Enlarger



Kodak Auto-Focus Enlarger

Amateur apparatus that eliminates focusing in enlarging. Makes prints on Bromide paper from 1½ to 3½ times the dimensions of any size negative up to 4 x 6 inches.

THE Kodak Auto-Focus Enlarger changes enlarging into a printing process almost as rapid and easy as contact printing.

As you slide the camera up or down on its standard—it clamps to any table top and operates vertically—the image shrinks or grows to the size desired but always remains critically sharp. The mechanically accurate, auto-focus device automatically adjusts the position of the camera lens and constantly keeps the image in sharp focus.

The apparatus is complete with electric cord and plug, negative holder, paper holder, set of flexible metal masks in six sizes and Kodak Anastigmat Lens, but without the 60 Watt Mazda Lamp required for illumination.

Kodak Auto-focus Enlarger . . . \$40.00

Diffusing Disc for soft focus prints . . . 1.00

CANADIAN KODAK CO., LIMITED

TORONTO, CANADA

At your dealer's

*For all enlarging, including printing
with the Kodak Auto-Focus Enlarger—*

Eastman Bromide Papers

Emphatically faster than other developing papers—as easy to use as Velox.

VELVET BROMIDE for enlargements from average negatives—negatives that make good contact prints on Special Velox.

BRILLIANT VELVET BROMIDE for negatives that makes good contact prints on Regular Velox.

ROYAL BROMIDE for redevelopment for sepia effects.

At Kodak dealers'

CANADIAN KODAK CO., LIMITED
TORONTO, CANADA



WHEN THEIR SHIPS COME IN
Made with a Graflex, by M. W. Reeves

KODAKERY

A Journal for Amateur Photographers

PUBLISHED MONTHLY—YEARLY SUBSCRIPTION, 60 CENTS; SINGLE COPIES, 5 CENTS

Vol. IX

MAY, 1922

No. 7



FIG. 1

REDDY CHICKAREE IN ACTION

BY HOWARD TAYLOR MIDDLETON

Illustrated by the Author

A BUSHEL of black walnuts, laboriously hulled by hand, was stored away in a room above the garage. Then one day,

my mouth watering for promised chocolate fudge with nut meats, I visited the cache. Heavens! what a surprise awaited me. To the



FIG. 2

last corrugated sphere, the baskets were empty. Then, turning my amazement to rage, from a rafter overhead came mocking squirrel laughter: "Chir-r-r-r-r! Chir-r-r-r-r! Chir-r-r-r-r-r!" Reddy Chickaree had swiped the walnuts! There would be no chocolate fudge with nut meats! The brigand must die! I was slipping shells into the barrels of the 12 gauge when Pal intervened.

"Don't shoot him; give him a chance to pay you back in pictures."

"Very well," I answered grimly, laying aside the gun, "but if he fails to make good, I'll plug him—and that's a promise."

Now the pictures are taken, and here's the irony of it; I had to buy walnuts to lure the little rascal to my cameras.

The way I made Reddy pay for

those walnuts was by compelling him to photograph himself in the role of the "Doug" Fairbanks of wild life land. The pictures were made with a Graflex, which Reddy operated with the assistance of a Hold Fast mouse trap.

The stage setting for the first five pictures was procured from the wood house, in the form of a portable stump, upon the top of which were placed two walnuts. Having attached the Graflex to its sturdy tripod, I focused it carefully. As the westering sun was carrying the light away, the lens was opened to $f.4.5$ and the shutter set at $\frac{1}{350}$ of a second. This is slower than I like for a close-up action picture, but I was afraid



FIG. 3



FIG. 4

to give a shorter exposure with the prevailing light conditions.

The Hold Fast mouse trap, held in position by clamps, mechanism side down, was placed directly beneath the camera. One thread extended from the wire loop of the trap to the camera shutter lever. Another thread was run from the pedal of the trap through a screw eye, fastened to the top of the stump and from there to the walnut bait.

I witnessed the taking of the first photograph from the library window, and a most spectacular comedy it was indeed. A few feet from the baited stump there stood a walnut tree, and clinging head downward on the trunk was Reddy gazing longingly at the nuts. He remained in this position, motionless as a statue, for quite a while, becoming more covetous every instant. Finally he leaped

for the banquet table. As he landed, his weight caused the stump, not perfectly flat upon its bottom, to sway slightly. This movement tightened the thread

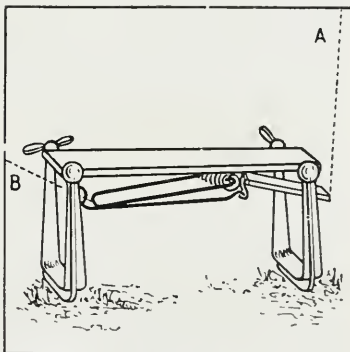


Diagram showing Mouse Trap held in Metal Clamps

A—Thread leading to bait

B—Thread leading to camera



Fig. 3

sufficiently to set the camera outfit in operation, and at the noise, Reddy made an ultra-rapid departure without even reaching the bait. This all transpired so quickly that I can think of no better simile than to liken Reddy's action to that of a rubber ball tossed against a wall only to immediately rebound. Does not this stunt proclaim him the "Doug" of wild life land? (Fig. 1.)

When next I tried to have Reddy perform upon the stump, he had gotten bravely over his stage fright and refused to register strenuous action in response to the noise of the snapping trap. I determined, therefore, to carry the noise still closer to my subject. To accomplish this, I used a second trap which I nailed to the front side of the stump. A thread was run from the loop of this trap back to the pedal of the trap beneath the Graflex. Another thread ran from the pedal of the trap on the stump, through a staple in the stump top, to the walnuts. At the first tryout of this device, Reddy leaped directly away from the noise, giving me a portrait of his beautiful plumed brush—but that was all. So it became necessary to erect a barrier at the back of the stump to

compel my subject to jump to left or right rather than away from the camera. (Fig. 2.)

Even the proximity of the snapping trap did not bother Reddy for long as can be seen by Fig. 3 taken a day later than Fig. 2.

The difference in tone of the lettered signs in these two photographs is due to the color of paper used, that in Fig. 2 being yellowish and in Fig. 3, pure white.

The reason that no part of the thread connecting the two traps is seen in Fig. 2 is because it was broken and shot out of the picture by the action of the apparatus.

Before abandoning the stump studio, I wanted a double self portrait; i.e., I wished Reddy not only to photograph himself with the Graflex, as formerly, but at the same time, with the Premo as well. It was my desire to place the Premo far enough away to photograph both the Graflex and the subject. If this could be done, we would have two interesting pictures, one showing a close-up of the subject, the other a record of the outfit in action. With this end in view, the Premo was set up on a stake by means of an Optipod at

the proper distance, and a thread was run from the shutter lever of the Premo to a staple driven in the foot of the stump. At this point it joined company with the thread from the trap beneath the Graflex and was also fastened to the loop of the trap on the side of the stump. This time, instead of a single thread running from the pedal of the trap on the stump to the bait, two threads ran from the pedal of this trap to a row of big nails (another form of barrier) at the rear of the stump. Then several walnuts were laid on the threads. While Reddy was busy with the walnuts he came in contact with the threads and the pictures shown in Figs. 4 and 5 were made in quick succession.



A Flashlight Portrait of Plume-Tail



Made with a No. 9 Premo, by Stephen J. Bushma

THE PATH OF SUNBEAMS

WHEN the sun's disk is hidden by dark clouds that extend to the horizon, and there are openings in the clouds through which bands of sunlight stream, the path of the sunbeams can be plainly seen when the air through which they pass contains water vapor.

The path of the sunbeams can also frequently be seen along such city streets and country roads as are shaded by tall trees that spread a canopy of leaves above the roadway. There are always openings in such a canopy through which the sunlight shines, and when the background of the scene is dark in tone the bands of light will be conspicuously out-

lined whenever there is fine dust or light mist above the roadway.

Wherever bands of sunbeams can be plainly seen they can be photographed, and they are always of pictorial value. The exposure to give depends on the lighting of the subject, of which the sunbeams are only a part.

In dimly lighted ravines, where the path of the sunbeams is seen in the spray of waterfalls, the exposure should always be long enough for recording some detail in the walls of the ravine. Five seconds exposure with stop 16 on double lenses, or with the second stop on single lenses has often been found necessary.

When the path of the sunbeams is visible between rows of trees we would suggest an exposure of 1 second with the stops mentioned.

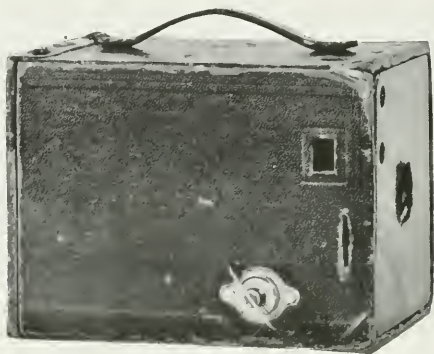
The bands of sunlight that are seen outlined against the clouds, when looking across an open landscape, can be recorded with the same exposure that is given for ordinary landscape work, that is, $\frac{1}{25}$ of a second with stop 16, or

a snapshot with a single lens camera.

Mr. Bushya's picture on page 8 shows how bands of sunlight can be utilized for adding pictorial interest to a scene. This picture was made at 8 o'clock on an autumn morning. Mr. Bushya informs us that the sunbeams were reflected from mist, which was so faint that it could scarcely be seen, excepting where the sunlight penetrated.



THE OLD, OLD STORY
Made with a Premo by L. Marland



The 18-year-old Brownie that made the picture on opposite page

THE PROOF OF THE PUDDING

EIGHTEEN years ago Santa Claus knew a certain boy who wanted a Brownie. Perhaps he wondered, as many parents of that time wondered, what a boy could do with a camera, but he understood boys well enough to know that if they wanted to make pictures they would quickly learn how if they had a camera that was simple enough. As the box Brownie was the simplest camera Santa Claus had ever seen he decided that the boy should have one.

A few months ago this boy, now grown to manhood, sent us the Brownie, and mentioned that it has been "in Canada, all the States, Mexico, Cuba and South America, having served our family royally in recording pictorially all the happenings on those expeditions."

Though battered and worn, from its years of hard service, it is

still doing good work, having recently made the story-telling picture shown on the opposite page—a picture which won first prize in an amateur photographic competition in Peoria, Illinois.

The Brownie is so simple that it is preeminently adapted for children's use, but it is also used by many grown-ups, especially by those who prefer a camera that is always ready, with shutter set and lens in focus, so that all they have to do is to point it at the subject and press the shutter lever.

While the simple Brownies, like all other simple things, have their limitations, they give, within those limitations, a service which has proven of great value to their users.

Mr. A. L. Bedel, to whom Santa Claus brought the Brownie eighteen years ago last Christmas, informs us that it has made photographs which are priceless.



WHEN A FELLOW NEEDS A FRIEND
Made with a No. 2 Brownie, by A. L. Bedel



PRIMROSES

Made with a Kodak and Kodak Portrait Attachment

"CLOSE UP" PICTURES WITH A KODAK

WE were much interested recently in looking over a very fine collection of Kodak prints, the work of an amateur friend of ours.

This gentleman is interested in archaeology (careful now, Mr. Printer) and naturally his collection contained many prints showing ornaments, designs and other architectural details which had impressed him as being worthy of record. Some of these details occupied but a very small portion of the available space in the print, making necessary the use of a reading glass to enlarge the image before one could fully appreciate the skillful workmanship and artistry combined in the design.

We suggested that the prints might serve their purpose better had they been taken on a larger scale, in other words, had the

Kodak been placed nearer the object photographed in order to make the details larger and make unnecessary the use of the reading glass.

Our friend heartily agreed with us, but said he had long ago given up the bulky long bellows camera, preferring to put up with the small scale image, unavoidable because of the short bellows extension, in order to take advantage of the light, compact and ever-ready Kodak.

We inquired if he had ever heard of the Kodak Portrait Attachment. Somewhat indignantly he replied in the affirmative—"Didn't he always read carefully every issue of Kodakery? But he wasn't interested in portraiture anyway."

It did not take very long to get him interested in the *Portrait Attachment*, however, when it was

pointed out to him that this little accessory would enable him to produce with his Kodak results which, until then, he had thought only possible with the large, heavy camera he had long ago discarded.

This little incident caused us to wonder if *many* Kodak users have failed to take advantage of the possibilities opened up by this simple attachment. Many of us keep a pet or pets, it may be a small dog, a cat, a rabbit, a bird, or a tame mouse, of which a really good picture is difficult to secure because of the small size of the object and the limits of the focusing scale.

Here is the simple way, slip a Portrait Attachment into place



Made with Portrait Attachment

on the lens, follow the directions (which are supplied with the Attachment) closely, using a rule or tape measure to be quite sure the distance from camera to object is correct, and the result will show the image on a much enlarged scale, filling the picture space properly, and a great improvement on the results previously possible.

The Kodak Portrait Attachment is simply an extra lens in the form of a cap made to slip on in front of the ordinary camera lens. To fit the attachment takes only a moment as there is no screwing on or adjustment of any kind to make. There are Portrait Attachments made to fit practically every type of Kodak or Brownie and



Made without Portrait Attachment



Without Portrait Attachment

they may be obtained from any Kodak dealer.

The attachment is never in the way and it does not interfere in any way with the ordinary use of the Kodak, as you simply slip it on when you need it, and take it off just as easily when you do not.

When the patient efforts of the garden-lover have been at last rewarded with a glorious head of bloom on some carefully tended plant in the border, or perchance a choice flower of "prize" proportions in its full glory, how often has he (or she) wished he knew

how to obtain with his Kodak a picture large enough to show the essential "points" of his prize in all their splendid detail! There is no reason why the garden-lover should deny himself this pleasure. With a Kodak Portrait Attachment he can obtain large size pictures of any individual bloom or single flower, of which he may wish to keep a record—pictures showing every detail of its beauty.

With this Attachment fitted to his Kodak, he can, in course of time, secure a collection of pictures of his choicest specimens, that will be a never-ending source of delight and pride, and thus he will be able to trace his progress in horticulture step by step.

Kodak users who are interested in natural history will find the Kodak Portrait Attachment an invaluable aid in the pursuit of their studies. By its means pictures of birds, nests, eggs, animals and reptiles can be obtained of sufficient size and clearness of definition to show the markings which are their distinctive features.

The use of the Portrait Attachment in the field of Home Portraiture is perhaps too well known to need more than a passing remark.

Few amateur photographers have not, at one time or another, wished to take large head and shoulder portraits of their friends or children, but have been debarred from doing so by the limitations of the ordinary hand camera which they use. This objection

does not apply in the case of the Kodak enthusiast. There is no reason why the Kodak user should feel at a disadvantage owing to his inability to obtain pictures of his friends taken "close up." The Kodak Portrait Attachment enables you to secure excellent head and shoulder portraits of your friends, relatives or children in their home surroundings, those intimate little pictures that increase in value as the years go by; its use wonderfully increases the scope of your Kodak and opens up to you some of the most interesting branches of photography.



With Portrait Attachment



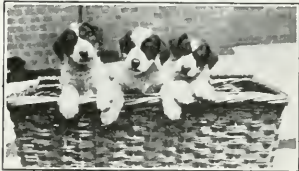
THE MOSQUE

HERE, THERE -- EV

VARIED RECORDS
FURNISHED BY KODAK AND PREMO
PHOTOGRAPHS



Made with a V.P. Kodak, by
G. Walter Brown



Made with a No. 0 Brownie,
Camera



Made with a No. 1 Kodak Jr.



Made with a Pocket Premo, by Alf. Erichsen



Made with a V.P. Kodak by J. P. Griffis

WHERE



Made with
a Pocket Premo
by Alf. Erichsen



The Matterhorn. Made with a No. 3A Kodak Junior

AUTOMATIC FOCUSING IN ENLARGING

AUTOMATIC focusing in enlarging, by which enlargements of different sizes can be made from the same negative without having to focus for each size of image, marks an epoch in the evolution of amateur photography.

In order that those who have never made enlargements with a focusing enlarging camera may appreciate the great advantages of an automatic focusing enlarger we will, before describing the automatic method, explain the method by which enlargements of various sizes have heretofore been made from the same negative.

Large pictures are made from small negatives by placing the negative in a suitable holder and photographing the negative image by the light that passes through it. The size of the enlargement thus obtained depends on the distance between the lens and the negative, but the sharpness of the enlargement depends on the distance between the lens and the paper on which the picture is printed.

In order to secure a sharp enlargement, of the exact size that is wanted it is, therefore, necessary to have both of these distances exactly right. If one is wrong the picture will be of the right size but will not be sharp, or vice versa. If both distances are wrong the picture will not be of the right size nor will it be sharp.

The only way it is possible to get both of these distances exactly right, with the focusing enlarging cameras that have been on the

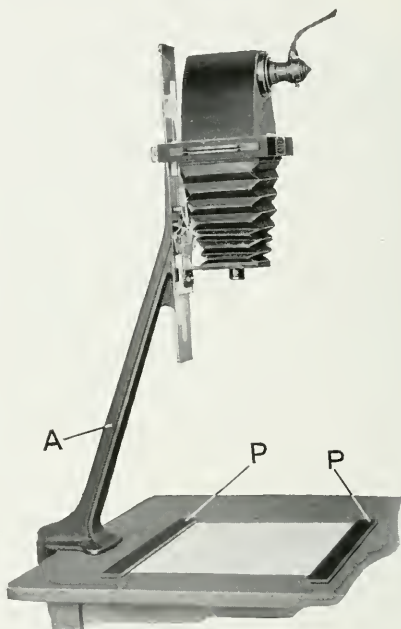


FIG. 1
*A—Standard
P—Paper Holders*

market for many years, is by trial. The camera must be moved toward and from the paper to which the image is projected, for securing the size of picture that is wanted, and then the lens must be racked back and forth for securing a sharp image. As the sharpness of the image can only be determined by watching it as the focus changes, only those who have good eyesight can depend on getting it sharp.

These handicaps, which have prevented many from making en-

largements, have now been wholly overcome by an enlarging camera which focuses automatically, that is, it always projects as sharp an image to the paper, on which the picture is to be made, as the negative can yield, regardless of the size of the picture.

This camera is known as the Kodak Auto-Focus Enlarger. Fig. 1 shows it attached to an ordinary table, with the paper lying on the table, where it is held in position by the paper holders (P and P).

To make clear how this camera does what we have stated we will refer to Fig. 2.

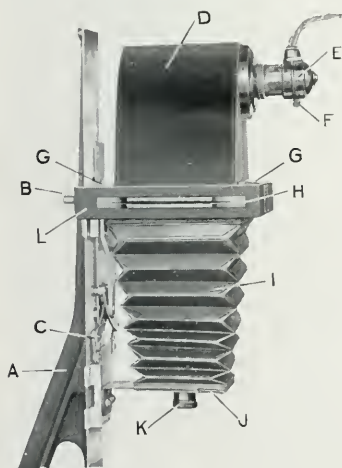


FIG. 2

- A—Standard
- B—Thumbscrew
- C—Focusing Device
- D—Reflector or Lamp House
- E—Lamp Socket
- F—Lamp Switch
- G—Catches
- H—Negative Holder
- I—Bellows
- J—Exposure Lever
- K—Lens
- L—Frame in which Negative Holder is placed

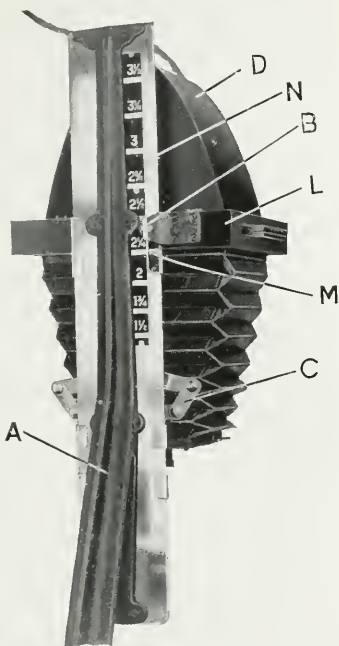


FIG. 3

- A—Standard
- B—Thumbscrew
- C—Focusing Device
- D—Reflector or Lamp House
- E—Frame holding Negative Holder
- M—Indicator Line
- N—Scale of Magnifications

By moving the frame (L) upward or downward on the standard (A) the distance between the lens (K) and the negative, which is in the negative holder (H), and also the distance between the lens and the paper, are so changed by the focusing device (C) that the image is kept sharp, no matter at what position on the standard the frame is locked.

The scale (N) shown in Fig. 3



Contact Print, showing exact size of image in Negative

shows that the Kodak Auto-Focus Enlarger will make enlargements ranging from $1\frac{1}{2}$ to $3\frac{1}{2}$ diameters, that is, from $2\frac{1}{4}$ to $12\frac{1}{4}$ areas, or, in other words, enlargements that are from $2\frac{1}{4}$ to $12\frac{1}{4}$ times as large as the contact prints that can be made from the negative.

Fig. 3 shows that the indicator line (M) is set opposite the $2\frac{1}{4}$ mark on the scale. This means that the frame (L) is locked (by the thumbscrew B) at that position on the standard where the enlarger will make a $2\frac{1}{4}$ diameter enlargement.

The Kodak Auto-Focus Enlarger will make enlargements of any size between $1\frac{1}{2}$ and $3\frac{1}{2}$ diameters, from

the whole, or a part, of any film or glass negative that is not larger than 4x6 inches.

The enlarger is fastened to a table with a long thumbscrew, which is not shown in any of the illustrations. When a sheet of white paper is placed on the table, and the lever J (Fig. 2) is turned to point downward, the negative image can be plainly seen on the paper. The size of picture that is wanted can then almost instantly be obtained by moving the frame upward or downward on the standard, and whatever the size of the picture is to be it will be sharp.



A $1\frac{1}{2}$ Diameter Enlargement made with a Kodak Auto-Focus Enlarger, from Negative that made Contact Print shown above



Slightly less than a $2\frac{1}{2}$ Diameter Enlargement, made with the Kodak Auto-Focus Enlarger, from negative that made the small picture on page 20

The lever J moves an orange colored safelight shield, which is inside the bellows. When this lever is at the position shown in Fig. 2 it covers the lens; but as it acts as a filter, through which the light passes, the image remains visible on the paper. As soon as the white

paper has been removed and a sheet of bromide paper has been put in its place the exposure can be made by turning the lever downward.

By eliminating the necessity for focusing the Kodak Auto-Focus Enlarger has made enlarging as easy as contact printing.



DUPLICATING VALUABLE NEGATIVES

How to obtain a satisfactory duplicate of a negative that has been lost or accidentally injured is a problem that some of our readers have asked us to solve.

All who have tried to duplicate a negative by photographing a print that was made from the original negative realize that it is rarely possible to get good results by this method. And all who have tried to duplicate a landscape, a portrait or a story-telling negative by photographing the subject again know that the resulting negative can never be an exact duplicate of the original.

The best plan, as well as the easiest, the quickest and the cheapest, is to safeguard the future of a valuable negative by making a transparent positive of it—at the start. From this positive a faithful duplicate of the original negative can be made at any time in the event of loss or damage.

A transparent positive can be made in the same way that a print is made on Velox paper, the film on which the positive is to be printed being placed in contact

with a negative in a printing frame, exposed to the light and then developed, fixed and washed.

The positive must be made in a darkroom, or in any room that can be made totally dark.

The positive can be made on the same kind of film as was used for making the negative, but as Eastman roll film and Film Pack Film are orthochromatic and can only be safely handled in a ruby light, the writer prefers to make positives on Eastman Commercial Film, which can be safely handled in an orange colored light. The brightest orange light that is safe to use is obtained when a Series I Wratten Safelight is used in a Kodak or a Brownie Safelight Lamp. These safelight lamps can only be used where an electric lighting circuit is available but the safelights which can be obtained in various sizes, through Kodak dealers, can be fitted to any darkroom lamps that are in use.

The length of time the positive should be exposed to the printing light can only be determined by test. As the film is much more sensitive to light than Velox paper,

the exposure needed will seldom be more than 2 or 3 seconds when the printing frame is placed about 5 feet from a 10 watt, or an 8 candle power, electric lamp. If a stronger light source is used, and it is not practical to place the printing frame as far as necessary from the light to avoid over-printing, the exposure should be made with a lighted match, held about 18 inches from the centre of the printing frame.

The exposure must be so timed that the positive will be fully developed in from 3 to 4 minutes when the developer that is recommended on the instruction sheet that accompanies the film is used at a temperature of 70 degrees Fahrenheit.

The positive should be developed in a tray so that the development can be watched, and the film should not be removed from the developer until detail has become visible in the lightest tones. At this stage it should be examined by

holding it before the orange light, with the emulsion side of the film facing the light. The reason for holding the emulsion side facing the light is because density can best be judged by looking through the back of the film.

Development should be stopped when the image, as seen on looking through the positive, is a little darker than would be desired for a print on paper.

After the positive has been developed, fixed and washed it should be laid on the negative and the positive image brought into register with the image in the negative. If exposure and development were correct the positive will so nearly neutralize the negative that scarcely any image can be seen on looking through the two super-imposed films.

After a satisfactory positive has been secured a duplicate negative can be made from this positive, in the same way that the positive was made.



DIFFUSED FOCUS ENLARGEMENTS

THE terms soft focus and diffused focus are often applied to photographs in which the images are composed of lines that have blended instead of sharp edges.

These photographs do not, so to speak, convey their messages in clean-cut sentences which everyone can understand, but convey them partly by suggestion, which the observer must interpret. The more the images are diffused the

less definite they are and the more interpretation they need.

This is the type of photograph that the "pictorial" workers are producing—the type that, for several years, has been discussed in the photographic press.

The amount of diffusion which the various workers introduce into their pictures ranges all the way from what looks like slightly out-of-focus effects to extreme "fuzziness," and the adjectives that



Enlarged with the Kodak Auto-Focus Enlarger from a $1\frac{5}{8} \times 2\frac{1}{2}$ negative made by R. B. M. Taylor. As sharp an enlargement as the negative can yield



*Showing the Maximum Diffusion obtained by using the Diffusing Disc with
the Kodak Auto-Focus Enlarger*

people have used in expressing opinions about these pictures have ranged all the way from "superb" to "abominable."

When people express such diametrically opposite opinions about a picture it is apparent that they judge that picture by different standards. To those who want every detail of the subject rendered in sharp, clean-cut lines, the diffused focus image is an abomination; while to those who prefer subordination of detail, so that the picture will partly reveal and partly suggest its message, the diffused focus image is superb.

That some who like diffusion in large pictures prefer sharpness in small ones is evidenced by the many letters we have received asking if it were possible to make diffused focus enlargements from sharp negatives.

This can be done with the Kodak Auto-Focus Enlarger. The

lens that is fitted to this enlarger is a Kodak Anastigmat, which is so highly corrected that it will make as sharp an enlargement as the negative can yield, but when a diffusing disc, that is specially made for use with this lens, is placed on the front of the lens mount, the sharp lines that the lens projects are diffused. The result of this diffusion can be seen by comparing the picture on page 25 with the one on 24. The picture on page 25 shows the maximum diffusion the disc produces.

One of the great advantages of securing diffused images by the method we have described is that the photographer can introduce either the maximum diffusion, or as little diffusion as he desires, into his enlargements. The method by which less than the maximum diffusion can be obtained will be explained in our next number.



THE FARM IN WINTER

By Phil M. Riley

SERVICE DEPARTMENT TALKS WHEN IN NEED OF ASSISTANCE

IN the April KODAKERY we directed attention to the constructive criticism that the Service Department offers to all photographers, without cost.

The object of this criticism is not merely to point out mistakes and tell how to avoid repeating them, but also to offer suggestions that will be of practical help in picture making.

That our criticisms and suggestions have proved of assistance to photographers is shown by the following extracts from a few of the many letters we are constantly receiving:

"Thank you for the helpful information contained in your letter of March 25th, also for the booklets which were received under separate cover. I certainly appreciate the service and interest shown the amateur by your co-operation."

"I really cannot thank you enough for your carefulness and promptness in answering my questions. I have found your department the only place where I can get what I want without spending hours grubbing through unrelated material."

"I want to thank you heartily for all the trouble that you took to give me the information desired in reference to the negatives I sent you. Your answers are certainly mighty helpful and right to the point."

"Your department has been of such tremendous help in the past that I am always glad to refer to you."

If you care to have us criticise your negatives and prints, or if you desire any information regarding amateur photography, address

SERVICE DEPARTMENT, CANADIAN KODAK CO., LIMITED
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"At Home with the Kodak" tells you how to make best the Kodak story of you and yours—Kodak portraits for example. Get a copy of this interesting booklet—it's completely illustrated, replete with diagrams, and free—*from us or your dealer.*

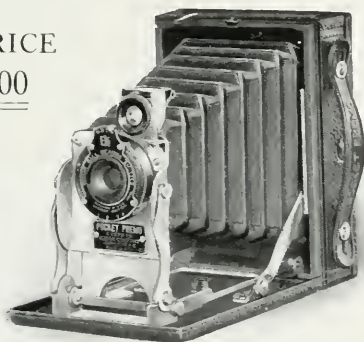
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The Pocket Premo



OUT of your pocket and into action—it's done almost instantly with this camera. One motion draws down the bed and snaps the front into position, ready for the picture—a unique feature which enables you to catch the unexpected scene before it changes.

The Pocket Premo is a small camera but its pictures are $2\frac{1}{4} \times 3\frac{1}{4}$ inches. It loads with 12-exposure film packs; its equipment includes Kodak Ball Bearing shutter and Meniscus Achromatic lens.

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AN entirely new idea in film clip construction. The Kodak Film Clip is two inches wide, and grips either large or small film so securely with its two toothed jaws that it cannot slip.



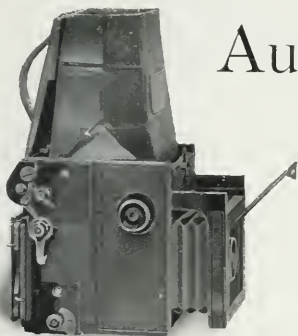
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Kodak Film Clip . . .	\$0.40
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Auto Graflex Junior

WHEN this camera is closed its greatest dimension is only five inches; it weighs less than two and one-half pounds. Yet all the characteristic Graflex features are present—the reflecting mirror, the Kodak Anastigmat lens *f.* 4.5, the focal plane shutter.

The picture size is $2\frac{1}{4} \times 3\frac{1}{4}$ inches and excellent enlargements can be made, so sharp are the Kodak Anastigmat's negatives.

The Auto Graflex Junior is regularly equipped with one cut film holder or one plate holder, but it also takes the Graflex Film Pack Adapter, Graflex Roll Holder or Graflex Magazine Plate Holder.

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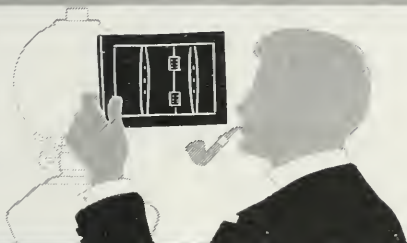
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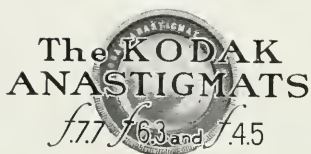
Testing the Infinitesimal

FROM the slabs of optical glass to the finished product, each Kodak Anastigmat lens must successfully emerge through ten rigid tests, performed in ten *different* departments. Even in two final tests, which are identical, the judgment of one set of inspectors is pitted against that of another.

The exacting nature of this work is indicated in the test for curvature. Here, so delicate is the adjustment that the warmth of the inspector's hand, if the fingers and glass are in contact longer than a few seconds, alters the lens shape sufficiently to prevent a fair verdict.

Of course such a change, while instantly detected, is infinitesimal, but as this particular test rejects deviation from the theoretically perfect curve of more than $\frac{1}{30,000}$ of an inch, "the infinitesimal" is the very thing the inspector is concerned about.

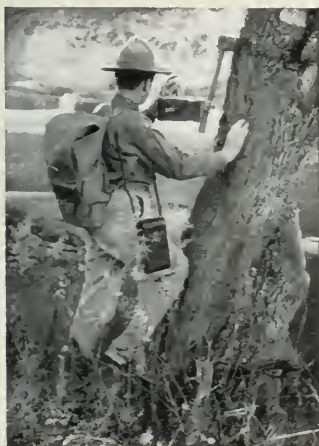
Send for the free booklet "About Lenses". It contains interesting information that you ought to have.



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PHOTOGRAPHERS



JUNE 1922



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They help you make good pictures—



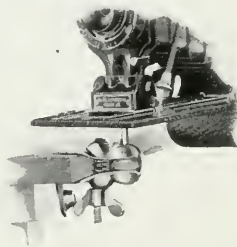
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ARE light, compact, convenient to carry and easily set up or taken down, while their careful construction of brass tubing gives them the added feature of dependable rigidity.

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New amateur apparatus that changes enlarging into a simple printing process.

Makes prints on Bromide paper from negatives 4x6 inches or smaller. Maximum enlargement from 4x6 negatives is about 14x21 inches; from 3¼x5½ negatives 11¾x19¼ inches and from Vest Pocket Kodak negatives 5½x8¾ inches.

ENLARGING is made a diverting pastime by the Kodak Auto-Focus Enlarger—it eliminates focusing.

Slide the camera down or up on its standard and the image shrinks or grows to the size desired. The auto-focus device automatically adjusts the focus and constantly keeps the image critically sharp.

For soft focus effects the Diffusing Disc (extra) yields various degrees of diffusion up to its maximum diffusing power.

Complete with electric cord and plug, negative holder, set of flexible metal masks in six sizes and Kodak Anastigmat Lens, but without the 60 Watt Mazda Lamp required for illumination.

Kodak Auto-Focus Enlarger . . . \$40.00

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WHEN THE WORLD IS SUNNY
Made with a Graflex Jr., by H. W. Maxwell

KODAKERY

A Journal for Amateur Photographers.

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JUNE 1922

No. 8



IN THE SUGAR BUSH

AND NOW HE WANTS A KODAK

JIMMIE HATCH had been taking pictures only a few months when his father saw his Brownie album for the first time. Mr. Hatch had commented freely on the prints, both good and bad, and now he had come to almost the last pages in the album, where Jimmie had a collection of winter pictures.

"Are all these pictures mounted

in the same order that they were made in?" asked Jimmie's father. "I can see a steady improvement in the work, so you must have noticed your own mistakes and profited by your own experience. These last prints are first rate."

"I tried to teach myself as I went along," answered Jimmie. "At first I was satisfied with any kind of a picture, it was so easy

just to point the Brownie and press the lever, without stopping to think much or taking a peek at the manual. But I saw that some prints looked better than others because the subjects were placed better in some than in others. So now when I make an exposure I think more about how the picture is going to look when it's finished."

"These last ones are all story-telling pictures, aren't they?"

"Sure," answered Jimmie. "They show people doing something—not just 'looking.'"

"Exactly," his father agreed. "They are much more interesting than they would be if the subjects were looking directly at the camera. Furthermore, you composed the pictures in the finder, instead of simply locating the subject in the finder as you did at the start. The subjects are well placed in your later pictures. There isn't too much foreground or background. You chose your backgrounds fairly well, too. The figures are clearly outlined."

"Did you notice the difference in the backgrounds?" interrupted Jimmie. "I remembered what you told me about backgrounds, so when I made the snapshot of Bobbie with his sled I got him outlined against the snow and the sky."

"When you're selecting a background the rule to follow is to



READY TO COAST

find one that will photograph considerably lighter or darker than the subject, so that the subject will be distinct from it and show up prominently in the picture," explained Mr. Hatch.

"There's another thing, too, about the picture of Bobbie with his sled," Jimmie suggested. "He's getting ready to coast you see, so I snapped him in an attitude that gave an idea of action."

"Lucky you thought of that," said Jimmie's dad.

"Oh I remember a good many other things too, when I make pictures, now. I remember always to hold the Brownie steady, to keep the sun off the lens, to use the largest stop for snapshots, and to set the camera on something solid when I make a time exposure. I can remember all those things now without stopping to think, and I get better pictures than I did at first, don't I dad?"

"Indeed you do. It's because you give more attention to the looks of the picture. The Brownie is so easy to use that anyone can get pictures with it, but the *pictorial* quality depends, not on the

camera, but on the person who uses it. An attractive picture is worth a good deal more than the extra thought that is required to make it better than an unattractive one.

"Remember that the camera always does its best and if you do your best every time you make an exposure you'll get pictures that are not only photographically good but pictorially good, too."

"I suppose you mean that if the Brownie does the work I ought to be willing to do some thinking."

"That's it," smiled Jimmie's dad. "And by the way, what do you want for your next birthday?"

Jimmie said he guessed he wanted a Kodak.



MAKING FRIENDS

Made with a 3A Brownie, by R. C. Messer

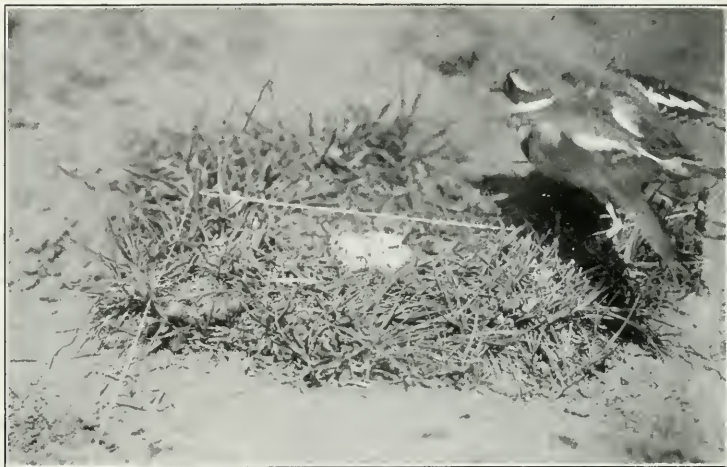


FIG. 1

A FEATHERED FILM STAR

BY HOWARD TAYLOR MIDDLETON

Illustrated by the Author

LIKE a tiny emerald isle in a sea of gold, the bit of sod containing the killdeer's nest stood out from the yellow soil which surrounded it. After discovering the nest, with its four pointed eggs of cream and blackish brown, I decided to try out some experiments in action self portraiture by making a Graflex and a Hold Fast mouse trap join forces in the production of speed pictures.

Although the method of operating the Graflex with a mouse trap was described in the May number and some previous issues of KODAKERY, I will say for the benefit of those who have not read my former stories, that in order for a dainty little lady like Madame

Killdeer to photograph herself by coming in contact with a slender thread stretched across her nest, it is necessary to establish, between the camera and the nest, a piece of mechanism that has sufficient strength at one end to release the Graflex shutter, and such a delicacy of touch at the other end as to enable the bird to operate it. The mouse trap, set up in reverse position beneath the camera, with one thread extending from loop of trap to shutter lever of Graflex, and second thread from pedal of trap to and across nest, performs this duty successfully.

Graflex and mouse trap in position, with threads attached, I went into seclusion at a distance of



FIG. 2

150 yards. From the broad flat top of a chestnut stump, I watched through a binocular for the arrival of the prospective subject, and for the spectacular performance I hoped would follow—nor was I disappointed.

Comfortably settled on my lookout, with Jimmy pipe aglow, and ears spread wide for the sound of "Kill-dee!" which always heralds the approach of this beautiful denizen of birdland, I very soon heard, faintly but clearly, the thin high-pitched notes proclaiming the advent of the (soon to be) feathered film star. From a nearby brook she came, fresh from a banquet of larvae, and, setting her slender wings, dropped to earth in a graceful volplane within four feet of the nest. There she stood for a moment surveying the situation with bow and scrape and

perky attitude. Then, sighting the thread, and finding it objectionable, she ran toward it and began scratching at it with her feet.

"Snap-thud-Kill-dee!" (Fig. 1) and she was up and away; I had my first portrait. Whether or not it would prove to be the action picture I coveted, however, was a question to be solved when the negative was developed later on.

Upon her next visit to the nest, the bird showed less trepidation at the noise of the camera outfit. While she was settling comfortably within the hollow of her nest, the tightening thread sprang the trap, the attending clamor sending her into the air. (Fig. 2.)

Instead of the spectacular being reserved for the very end, as is always the case in stories where fiction plays the leading role, in my true tale of Madame Killdeer



FIG. 3

all the excitement came at the beginning.

Although a whole day passed before the taking of more pictures, my feathered film star had evidently arrived at the conclusion, during the interval of inaction, that mouse traps, while noisy, were harmless, for from that time forth she refused to leave her eggs at the snapping of the trap.

The apparatus was set up as before except that the camera was now slightly farther away from the nest. The operator retreated to his chestnut stump watch tower and everything was ready for another picture. In a little while my glasses picked up the brown and white beauty feeding at the distant brookside. As I watched,

she took flight in the direction of the nest, made a dashing landing and stalked leisurely homeward. As her elegant form sank within the cup-like depression where lay the four spotted eggs, I waited impatiently for the flash of white above the nest that would herald her abrupt departure. When I saw it not, hope sank to my boots, but only for a heart-beat, for instantly the realization came that a far more astonishing event (from a natural history standpoint) was transpiring in wild life land than the taking of the hoped for action picture could ever be. A mouse trap had snapped with a bang! almost in the ears of Madame, with noise enough to scare the average bird out of a year's plumage, and



FIG. 4



FIG. 5

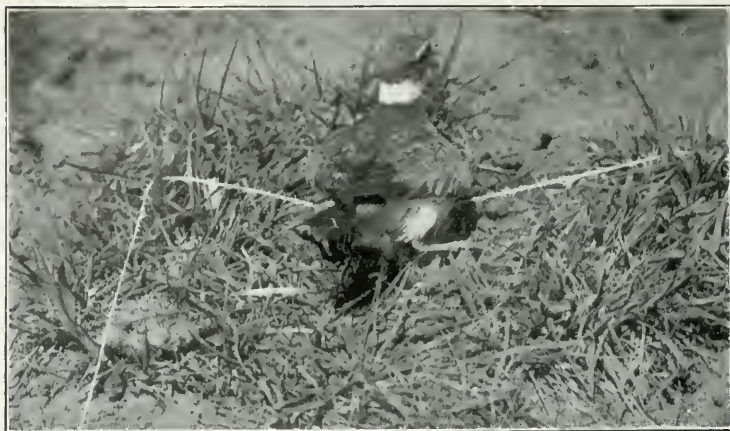


FIG. 6

all through this nerve-racking experience, she showed not the slightest trace of fear. (Fig. 3.)

While re-setting the Graflex shutter Madame departed, but after I had retreated to my lookout she once more came to her eggs. (Fig. 4). Then the camera was moved nearer to the nest, bringing the noise closer to the bird, but to no avail, as far as a speed portrait was concerned. (Fig. 5.)

One more exposure! I decided now to try for a real close-up of the bird on the nest, assured that she would not take flight. Therefore, the camera was moved nearer still, and all the while Madame ran in narrow circles round the photographer, uttering her shrill cry and ordering him to be gone. He had no sooner set the stage for the last act when the bird hastened to the nest, and made the final exposure, the writer standing at a

distance of not more than ten feet.

It will be remembered that the goal toward which I strove, in the camera adventure just described, was a series of portraits depicting strenuous action. That I had partially failed in my great desire was a certainty, but I knew I had secured some interesting wild bird pictures and I had hopes of the first two showing action. Imagine then my elation after the negatives of Figs. 1 and 2 were taken out of the developer. For these showed that Madame, with pinions upflung (true symbols of arrested motion) had been pictured in action.

In the sheer exaltation that comes to me with every worthwhile portrait of the wild, I quoted in fortissimo a pet phrase of a famous cartoonist:

"O BOY! AINT IT A GRAND AND GLOR-I-O-U-S FEELIN'?"



SILHOUETTES

Made with a No. 2 Brownie, by Louis Colosanti



JOAN AND HER BABY

PICTURING THE YOUNGSTERS

BY GERALD HAMLIN

MAKING impromptu home pictures of children—the kind that strongly appeal to everyone—is almost as easy as making snapshots of a landscape. The only equipment needed is a Kodak or other hand camera, a Kodak Portrait Attachment, a tape measure or rule, and, for in-

door work, an Optipod or a tripod.

No special arrangements are necessary for making these pictures indoors. One does not need to upset a room in the attempt to make a “studio.” The less the fuss the better the pictures will usually be.

Because children are very active,



MOTHER AND NANCY

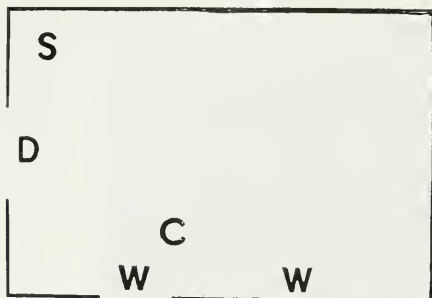


Diagram of room in which the pictures on pages 12 and 15 were made

S—Subject; C—Camera; W—Windows; D—Door

and do not realize the necessity of remaining perfectly quiet while a time exposure is being made, it is necessary to get them interested in something that will hold their attention for a few seconds.

They should not be "posed," nor told to do this or not do that. If they are kept entertained they will always assume a graceful attitude and will readily respond to suggestions. Children like to "help daddy" and they always want to "help mother," and the photographer who will take part in their play will find that they will gladly help him in making their pictures.

It was by working along these lines that the Kodak pictures that illustrate this article were made, without rearranging the room and without using a reflector.

While preparing to photograph Joan and her baby, the little lady, who is just six, was invited to

"assist" daddy fix the Optipod and the Kodak on a chair back. Then she was asked to place her baby on the piano bench, where she could "watch." By this time all was ready and by calling, "Joan!" the child looked directly at her daddy, who began telling a story while standing behind the Kodak. Joan listened without moving, and a five seconds exposure was made, with the *f.7.7* stop in the lens.

The room was lighted by two windows. The window shades were raised as far as they would go and, as it was a bright day in January, the exposure was ample.

This picture was made with a 2C Kodak Junior, fitted with a Kodak Anastigmat *f.7.7* lens. As a Kodak Portrait Attachment was used and the camera was so placed that the front of the attachment would be exactly 4 feet 2 inches from the child's face, the focusing

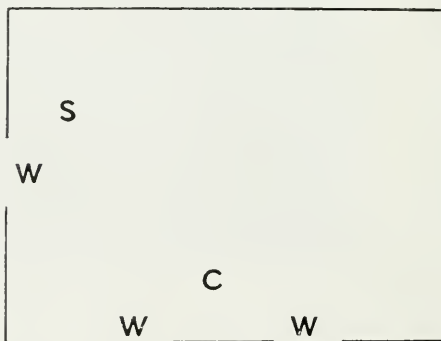


Diagram of room in which the picture on page 13 was made

S—Subject; C—Camera; W—Windows

indicator was set at the 100 ft. mark on the focusing scale, as the instruction sheet that came with the attachment directed.

"I Want That Doll" was taken in the same room without the portrait attachment, at a distance of 6 feet, with the same 2C Kodak. Pat, who is only four and a half, was invited to "pretend" she wanted a doll with which Joan was playing. When Joan held the doll before her, Pat decided that she "really and truly" wanted it. It was during a pause in the argument that ensued that the exposure, about four seconds with the largest stop was made. It was taken on "bulb" instead of on "time" so that the shutter could be instantly closed, by releasing pressure on the push button of the cable release, if either of the children should show signs of moving.

"Mother and Nancy" was made with a 3A Special Kodak fitted with an *f*.6.3 Kodak Anastigmat lens. This picture was taken late one January afternoon and, as the light was weak, a twelve seconds exposure was given, with the *f*.6.3 stop. The child was so interested in a story that her daddy was relating that she remained immovable during the entire exposure period.

EDITOR'S NOTE—The surest way of successfully photographing children indoors is by making the pictures during the brightest day-



"I WANT THAT DOLL"

light hours, with the children near a window that receives the unobstructed light from the sky. This makes it possible to give reasonably short exposures—1 or 2 seconds with the largest stop.

When it is desirable or necessary to photograph children at an hour when the light is weak, or to photograph them in a part of a room that is dimly lighted, Mr. Hamlin's plan of entertaining the children or inducing them to entertain themselves, will prove a great help in keeping them quiet while the exposure is being made.

THE PO

RECORD

AND



Made with a Premo, by F. W. Still



Made with a Vest Pocket
Kodak, by
J. H. Brearley



Made with a Graflex, by M. W. Reeves

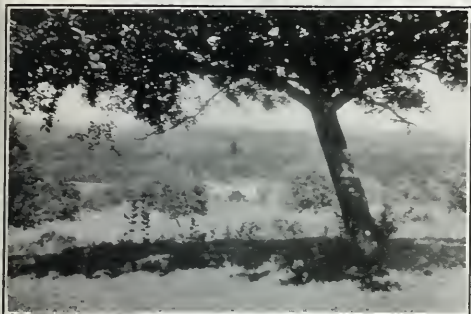


Made with a Premo, by Robert E. DeLanc

TRY OF TREES

D IN KODAK, GRAFLEX

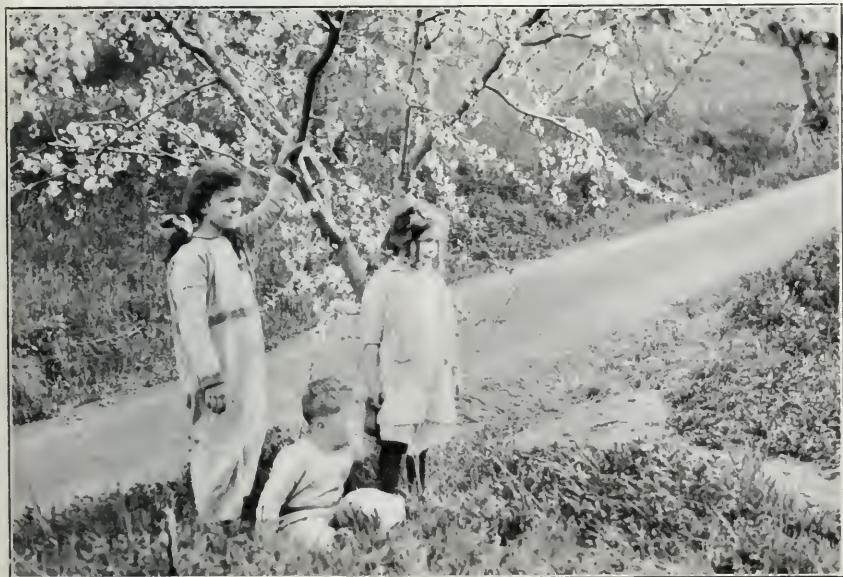
PREMO PICTURES



Made with a No. 1 Kodak Jr., by David Bridge



Made with a Premo by C. N. Wolever



Made with a Graflex Jr., by Mrs. O. H. Thomas



FIG. 1.—Developed for 15 seconds

THE LENGTH OF TIME A VELOX PRINT SHOULD BE DEVELOPED

ONE of the important things to observe when making prints is, to develop them for the right length of time. As the length of time that a print should be developed depends on the kind of paper on which it is made and on the strength and temperature of the developer, it is obvious that the only rule that can be given for development must be based on developers of a certain strength, used at a certain temperature.

Our discussion of the length of time that a Velox print should be developed is based on the use of

the developers that are recommended on the instruction sheet that is furnished with Velox, when these developers are used at a temperature of 70 degrees Fahrenheit.

Owing to recent improvements that have been made in Velox all grades and all surface finishes of the paper should now be developed for about 45 seconds.

If the print is too light or too dark after 45 seconds development it is the length of time the paper is exposed to the printing light, and not the length of time it is



FIG. 2—*Developed for 20 seconds*



FIG. 3—*Developed for 30 seconds*



FIG. 4—*Developed for 45 seconds*

developed, that should be changed.

The reason for this is that the various tones of which a photograph is composed can only be correctly rendered when they develop gradually and consecutively, so that the darkest ones will appear first and the lightest ones last.

If development is shortened some of the tones will either remain undeveloped or, if they are developed, they will not be of the right values, that is, they will be too light. If the print was under-printed and also under-developed it will be lacking in detail, and if it was over-printed and under-developed it may have practically all the detail there is in the negative

but there will be too little contrast between the tones.

On the other hand, should development be prolonged much beyond 45 seconds, the print will be fogged or stained, or both fogged and stained. Under-printing fails to record full detail, and it is useless to try to develop any image which the light did not record on the paper.

Over-printing and over-developing produce prints that are too dark and "muddy" looking.

Our illustrations were made from correctly printed Veloxprints which were developed in the Elon-Hydrochinon developer that is recommended for Velox. The

temperature of the developer was 70 degrees Fahrenheit.

We occasionally receive prints for criticism that are as weak looking as Figs. 1 and 2, when the negatives from which the prints were made are capable of yielding prints of the quality of Fig. 4.

We have also been asked to criticise many prints that were similar in quality to Fig. 3. Fig. 3 does not represent a bad print, but it represents one that is not good enough, because it does not record the values of some of the tones as well as Fig. 4.

Consider the subject: Note the

white-caps on the water. These white-caps are an important part of the story that the picture tells, and these must be suitably recorded in order to make the picture tell its story adequately.

In nearly every good negative there are objects which are as important as these white-caps, and it is only by recording these objects in their right tone values, that the picture can be made to most faithfully represent the subject.

The only way that these tone values can be rightly rendered is by developing a correctly printed print for the right length of time.



THE SUNSET HOUR

Made with a Premoette Jr., by C. N. Wolaver

THE NEGATIVES FROM WHICH WE HAVE NO PRINTS

THE old saying, "keep a thing for seven years and you will find a use for it," is especially true of many photographic negatives from which the owner has no prints, and it a wise precaution never to throw a negative away unless it was hopelessly under-exposed.

The discovery of a new process or an increase in our knowledge and skill may at any time enable us to make prints from negatives we had considered useless.

The writer has dozens of old negatives, that were made long before the day of tank development which were either so much under or over-developed in the tray that they were not suited for any of the papers that were on the market at the time the negatives were made.

When the first development paper was introduced good prints were obtained from some of these negatives, and later, when development papers were made to fit neg-

atives of various ranges of contrast, nearly all the incorrectly developed negatives acquired a positive value.

But aside from incorrectly developed negatives, there are lots of others, in nearly every collection, from which the owner has no prints. It may be that all the prints were given away, or the negatives may have been laid aside after development with the intention of doing the printing at some more convenient time.

Many of us who make some negatives for purely record purposes, such for instance, as a pictorial souvenir of the old mill that is going to decay, or the old landmark that is soon to be removed, have learned that the pictures that can be printed from these negatives are always of sentimental value to those who know the subjects they record. These pictures will, therefore, prove more interesting in after years than at the time they were made.

Portrait negatives, whether of one individual or of a group, should always be preserved. The time will certainly come when they will be wanted.

By going through your files you will be sure to find some negatives of which you have no prints, and it will be just these prints that you will want for your album, which is the only place where they can be kept with the certainty of being found when they are wanted.



AN ENGLISH EXCURSION BOAT
Made with a 2A Brownie



CHUMS

Made with a 3A Kodak

SUBDUING OBTRUSIVE DETAIL IN ENLARGING

IN the ranks of amateur photographers we find two groups of careful workers whose ideals, as expressed in their pictures, are very different. The workers in one group have often been called realists and those in the other, impressionists.

The aim of the realist is to picture things as they are, that is, to secure sharp images of everything he photographs. He wants his pictures to record, not only what he observed, but every detail of the subject that was within view of the lens at the time the exposure was made.

The aim of the impressionist is to picture things as he sees them.

He wants his pictures to emphasize the features that appealed to him at the time he photographed the subjects. If, for instance, when looking at an attractive bit of landscape, he observes nothing but the forms of prominent objects and the light and shade that surround them, it will be the forms of those objects with the lighting effects that made them conspicuous, and not the details of the subject, that he wants most prominent in his picture.

The realist's problem of getting wholly sharp pictures is a simple one, which is solved by the anastigmat lens. The impressionist's problem of subduing detail, though



*Printed 40 seconds with the Kodak Auto-Focus Enlarger.
As sharp an Enlargement as the negative can yield*



*Printed a total of 40 seconds with the Kodak Auto-Focus Enlarger,
10 seconds with and 30 seconds without the Disc*



Printed 40 seconds with the Diffusing Disc in front of the lens of the Enlarger, showing the maximum diffusion the Disc can render



Printed a total of 40 seconds with the Kodak Auto-Focus Enlarger, 20 seconds with and 20 seconds without the Disc

a complex one, which varies with different subjects, is always largely and sometimes wholly solved by the diffusing disc that is specially made for use with the Kodak Auto-Focus Enlarger.

The great advantage of subduing undesirable detail with this disc, is, that no matter how sharp the image in the negative may be, the disc can be so used that the image can be considerably or only slightly diffused, with the result that the detail in the finished picture will be considerably or only slightly suppressed. This permits the worker to obtain different pictorial effects from the same negative.

If the diffusing disc is allowed to remain on the front of the lens mount during the entire time that the enlargement is being printed, the finished picture will show the maximum diffusion that the disc can render. If it is left in front of the lens during only a part of the time that the enlargement is being printed, the finished print will show less than the maximum diffusion.

When the disc is to be used for only a part of the time that an enlargement is to be printed, it is the first part of the printing that should be done with the disc. This is recommended because it is easier to take the disc off than to place it on the lens mount, without moving the camera front.

It is not necessary to cover the lens with the orange safelight lens shield while the disc is being removed. By placing the hand, that removes the disc, under the lens the light will be prevented from reaching the bromide paper.

The illustrations on pages 24 and 25 were made from bromide enlargements that were printed with the Kodak Auto-Focus Enlarger. Though a comparison of these halftone reproductions cannot reveal all the differences that can be seen in the enlargements from which they were made, the illustrations do, however, show that various diffusion effects can be obtained with the disc.

In examining these illustrations it should be remembered that no small diffused focus picture, viewed at short range, is as pictorially attractive as a large one viewed at a much greater distance.



*Made with a Premo, by
Mrs. Atice F. Foster*



Enlarged from a 2C Brownie negative, made by Miss Sarah Moss

SERVICE DEPARTMENT TALKS

PREPARING FOR OUTDOOR WORK

FIELD and forest and lake and stream are putting on their springtime costumes, and every camera, even the one that did but little work during the winter, will soon be busy.

If your camera was idle during the winter months the lens will need cleaning. The best way to clean a lens is to dust it with a camel hair brush, then breathe on it and wipe it with a clean linen handkerchief that has been made soft by repeated laundering.

Should there be dust inside the camera remove it, or it will settle on the film and make transparent spots (pinholes) in the negatives.

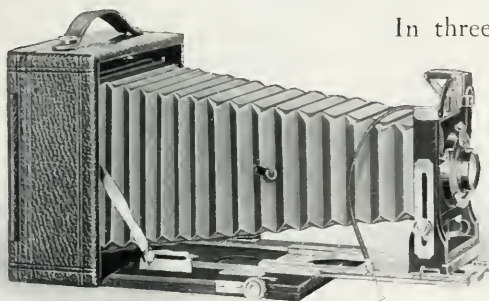
Should your camera have suffered any injury it may need the attention of the makers. In this case have your dealer send it to the makers, without delay, so that it may be put into perfect working order and be ready when you need it.

If you meet with any problems in your photographic work that you cannot readily solve, submit them to us. We will be glad to help you. For this service there will be no charge.



Address all communications
SERVICE DEPARTMENT, CANADIAN KODAK CO., LIMITED
TORONTO, CANADA

Premo No. 9



In three sizes:

$3\frac{1}{4} \times 5\frac{1}{2}$

4×5

5×7

LONG bellows capacity, a swing bed, a reversible back, a rising and falling front, scale and finder as well as focusing panel—all these advantages are present on the Premo No. 9.

The Planatograph lens, with which this camera is regularly fitted, is convertible. With the complete lens, copying can be done to almost full size. The focal length of either element alone is double that of the complete lens, so that the image made is twice as large. This feature is especially valuable for landscape work.

A plate holder is included in this camera's equipment and by adding a film pack adapter films can be used as well as plates.

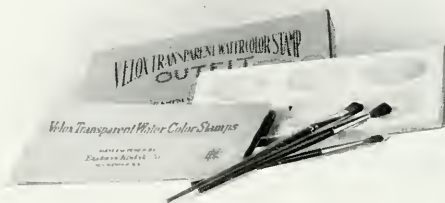
Premo No. 9, with Kodak Bull Bearing shutter, Planatograph lens, carrying case and plate holder is priced at \$40 for the $3\frac{1}{4} \times 5\frac{1}{2}$ or 4×5 model and \$50 for the 5×7 model. Equipped with other lenses or shutters the Premo No. 9 ranges in price to \$105.

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Toronto, Canada

Put the colors your eye saw into the pictures your Kodak made—it's easy with the



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This outfit includes mixing palette, three brushes, and Velox Transparent Water Color Stamp Book with twelve sheets of colors, each scored into twenty-six stamps. It comes conveniently packed in a neat cardboard case.

Velox Transparent Water Color Stamp Outfit, \$1.20

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Good Composition is easy with the

Graflex Camera

because you see the image on the ground glass, right side up, picture size, until the very instant the exposure lever is pressed.

New prices on Graflex cameras with Anastigmat Lenses range from \$85.00 upward. Catalogue free at your dealer's or by mail.

Canadian Kodak Co., Limited
Toronto, Canada

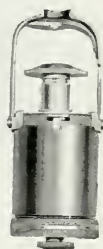
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AN extra lens that slips over your camera lens and makes "close-ups" in sharp focus at short range without affecting the length of exposure or the operation of the camera.

All sizes, 75

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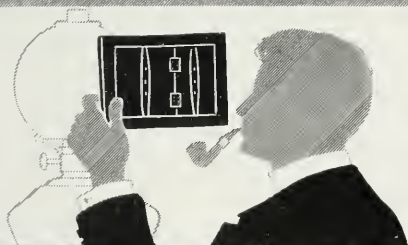
Keeps the group complete. It presses the release for you and after adjustment gives you ample time to take up your position in front of the lens.

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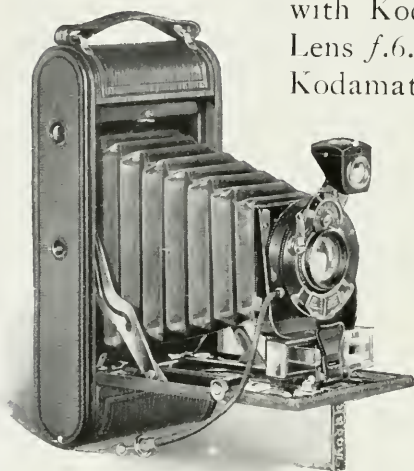
*Ask your finisher to print your
negatives on*

VELOX

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TORONTO, CANADA

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with Kodak Anastigmat
Lens $f.6.3$ and
Kodamatic Shutter



*Equips any amateur for
virtually any picture
in the hand camera field*

*Pictures, $2\frac{1}{2} \times 4\frac{1}{4}$
Price, \$60.00*

The 1A *Special* has the appointments, appearance and ability of a camera of a superior sort.

It has the Kodak Anastigmat $f.6.3$ —Eastman-made—the lens for better pictures.

It has the Kodamatic Shutter—Eastman-made—and accurate to $\frac{1}{200}$ second—which yields seven automatic speeds from $\frac{1}{200}$ to $\frac{1}{2}$ second, and bulb and time actions—an unusually wide range.

It has the Kodak Range Finder—a distinct advantage in accurate focusing—rising front, and autographic feature—exclusively Eastman.

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KODAKERY

A
MAGAZINE *for* AMATEUR
PHOTOGRAPHERS

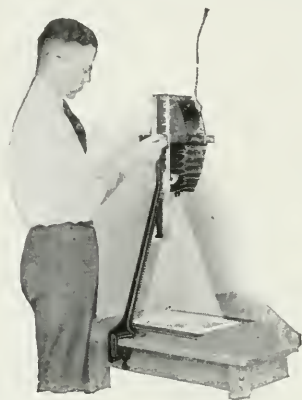


JULY 1922



CANADIAN KODAK CO., LIMITED.
TORONTO, CANADA.

MADE FOR THE AMATEUR



Kodak Auto-Focus Enlarger

*Eliminates focusing and
changes enlarging into a
simple printing process*

PRINTS of the size you want in sharp focus at that size—that is the difficult thing in ordinary enlarging that the Kodak Auto-Focus Enlarger makes easy.

As you slide the camera up or down the image grows or shrinks to the size desired and the auto-focus mechanism automatically keeps the image critically sharp.

The apparatus takes negatives up to 4x6 inches and makes prints on Bromide paper. The maximum enlargement size is 14x 21 inches.

Complete with electric cord and plug, negative holder, set of flexible metal masks in six sizes and Kodak Anastigmat Lens, but without the 60 Watt Mazda Lamp required for illumination.

Kodak Auto-Focus Enlarger \$40 00
Diffusing Disc, for soft focus effects . . . 1.00

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FILM development by the Kodak Tank method assures results that are right every time.

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IN FISHING TIME

*Enlarged from negative made with a No. 12 Premo,
by Ira T. Bronson*



PUBLISHED MONTHLY—YEARLY SUBSCRIPTION, 60 CENTS; SINGLE COPIES, 5 CENTS

VOL. IX

JULY, 1922

No. 9



FIG. 1

STORY TELLING PICTURES

FROM infancy to old age we are interested in stories. The stories we love best and remember longest, the ones that affect our conduct and help to mould our lives, are stories that tell us about the things that men and women and boys and girls have done and are doing.

These stories, translated into pictures, always command attention, because they carry a human appeal which, when pictorially

expressed, is one that humanity cannot ignore. This is the appeal that takes us to the movies, and makes us look through the pages of newspapers and periodicals for pictures that tell stories of human activity.

Since everyone is interested in such pictures it would seem that every camera user would make them. The fact that only a small percentage of the pictures that are sent to us for criticism are story



FIG. 2

telling pictures suggests that many amateurs do not realize that it is almost as easy to make them as it is to make a snapshot of a summer landscape.

The particular kinds of story telling pictures to which we wish to direct attention are those that portray the everyday incidents in the life of people. They can be made, with any hand camera, wherever children or adults are engaged in any occupation or pastime.

As these pictures are not intended to be portraits, that is, likenesses in which the face is the chief object of interest, the subjects should never be photographed when they are

looking at the camera. The reason for this is that unless the picture represents someone actually engaged in doing something it will not be a story telling picture.

This fact is so important, and is so apt to be overlooked at the time a picture is being made, that we will emphasize it by directing attention to Figs. 2 and 3 of our illustrations. Fig. 2 shows what may happen unless the photographer clearly recognizes the difference between a portrait and a story telling picture.

Fig. 2 contains the subject matter for a story, but it does not tell a story, simply because



FIG. 3



FIG. 4



FIG. 5

the subject was looking at the camera, instead of being engaged in spinning, at the time the exposure was made. As a portrait this picture is a success, but as a story telling picture it is a failure.

Fig. 3, though an exact duplicate of Fig. 2 in subject matter and in

setting, is a wholly different type of picture. This is not a portrait. It is a typical story telling picture because it shows the subject doing something, and it tells us what she is doing.

All who have made both portraits and story telling pictures



FIG. 6



FIG. 7

will, we believe, agree that it is easier to make the latter than the former. Even if the subject tries to "pose" for a story telling picture, the evidence of the posing will disappear as soon as the attention of the subject is concentrated on the work or play that constitutes the motif for the picture.

Figs. 1, 4, 5, 6, 7 and 8 of our illustrations suggest but a few of the unlimited possibilities of this branch of photography.

Story telling pictures can be made at home, both indoors and outdoors, and they can also be made wherever men or women or boys or girls are employed in any occupation.

Such pictures of our outings will

record, as no other medium can, the scenes and incidents we will always take pleasure in recalling.

Story telling pictures of the children at play, and of the other members of the family engaged in their accustomed pursuits or favorite pastimes, are pictures that become priceless with the passing of the years.

The exposure to give for these pictures is the same as for a nearby summer landscape, that is, a snapshot with a single lens camera, and a $\frac{1}{25}$ second, with stop No. 8 (*f.11*) with a camera that has a rectilinear or anastigmat lens, when the subject is in sunshine. When the day is cloudy, or the subject is in the shade, the exposure should be about four times as long.



FIG. 8



AT VEVEY, LAKE GENEVA
Made with a No. 3 Kodak



FIG. 1

BLACK JIM PERFORMS FOR THE GRAFLEX

BY HOWARD TAYLOR MIDDLETON

Illustrated by the Author

A RECENT article in a popular magazine declared the picture of a wild crow to be the rarest of bird photographs. I looked upon that statement as a challenge, and immediately sought for a spot in which to locate Black Jim and lure him within range of my camera. I realized perfectly well that this sable aviator, whose image I sought to capture, was both wise and wary, but, notwithstanding, I hoped to demonstrate that any amateur photographer, with time and patience

to command, can make striking crow portraits.

Bordering the Rancocas, the beautiful stream flowing through my home town, lies a series of meadows which are bare at low tide. At certain hours each day these meadows are favorite feeding grounds for crows. A trapper friend of mine, whose cabin stands at the edge of one of these meadows informed me that crows are very fond of muskrat meat—so fond, in fact, that if he did not visit his traps promptly after the



FIG. 2

tide left them exposed, he would find the pelts mutilated by sturdy beaks.

"When I skin the rats," he promised me, "I'll throw the refuse in the meadow, and we'll soon have the crows coming."

This sounded so promising that I took him at his word, and placed an old tin can on a stake near the spot where the bait was flung. In a few days the first visitor arrived, then the Graflex was substituted for the tin can, and a Hold Fast mousetrap, with threads running from it to the Graflex and to bait of muskrat meat, was fastened to the stake beneath the Graflex.

This self portraiture outfit is of the same type as the one already described in KODAKERY, but it was

rigged up differently. The mousetrap was fastened to the stake, which supported the camera, instead of being placed upon the ground as formerly. This arrangement made it possible to allow the apparatus, aside from the camera itself, to remain a permanent fixture throughout the engagement. Although the trap might be covered by water at every high tide, its efficiency would be in no wise affected. A rubber band was inserted in the line leading from the release lever to loop of trap, to act as a shock absorber and reduce to a minimum the jar which the springing of the trap administers to the camera, and then a white pasteboard box was placed upon



FIG. 3

the top of the camera, beneath the handle strap, where it could not be blown away by the wind. This box was connected by a thread with the loop of trap. As the box disappears from sight when the

trap is sprung, it serves to notify me from a distance whether or not I have a picture. The outfit I have described is shown in Fig. 6.

Gazing from the window of the cabin three hundred yards away, if



FIG. 4

FIG. 5



FIG. 6





FIG. 7

I distinguish a white box above the camera, I know that Jim has not yet dined. If the box is not there, it means that my guest has departed from the banquet hall, leaving his image behind him.

One interesting phase of Graflex mousetrap photography is, that until the subject becomes accustomed to the snap of the springing trap, there is a good prospect of getting action pictures. This is due to the fact that wild life is ever alert and moves with surprising rapidity when alarmed.

Another interesting phase is that the subject soon ignores the noise of the apparatus. Figures 1 to 5 of the illustrations, were taken

on a cloudy winter's afternoon. They depict Jim, from the time of his initiation as a film star, at which period of his career he is a badly scared crow, until he not only loses all sense of fear, but brings his buddy to sup with him. Inasmuch as Buddy shows a trace of "nerves" in the picture, I imagine it was he who sampled the feast and flinched at the attendant commotion.

While I am not sure that the same bird which is shown in action in Figures 1, 2 and 3, is also shown at dinner in Figure 4, and entertaining company in Figure 5, yet I think the poses assumed suggest this to be the case.

All of the pictures mentioned were made from the same viewpoint, which the outfit shown in Fig. 6. The difference in the backgrounds is due to changing the pitch of the camera slightly, from time to time, for the purpose of adding variety to the setting.

Figs. 1, 2, 3, 4 and 5 prove conclusively that close-up self-portraits of birds in flight can be successfully made with a Graflex on cloudy winter days—another triumph for this peerless instrument. The exposures were $\frac{1}{110}$ second with stop *f*.45.

Figure 7, was taken on a clear day, upon which occasion the camera was moved nearer the bait, too near, in fact, for an action

picture, the object being to get as big an image as possible. Jim evidently started to dine upon the muskrat carcass which was near the ear of corn, only to be sent soaring aloft at the snap of the trap.

Although this bird has the reputation of being the world's champion "corn raiser," I learned while working with him in my meadow studio, that he will not touch grain when there is meat to be had.

Desiring to experiment with other bait, I added a bit of fish to Jim's menu. He found this diet so delicious that he refused to register alarm, the camera catching him between pecks (Fig. 8).



FIG. 8



ABOVE—Made with a Gratlex, by Robt. L. Whiting. ON LEFT—Made with a Gratlex, by C. J. Herzog. BELOW—Made with a Premo, by Leopold Zwarg.



B O Y S

BITS OF BIOGRAPHY
FROM BASEBALL TO
BUBBLES



ABOVE—Made with a Graflex by M. W. Reeves. ON LEFT—Made with a Premo, by Ira T. Bronson. BELOW—Made with a Graflex, by L. Roy Frey.





FIG. 1—A *wrong way of holding any camera.*



FIG. 2—One of the *right ways of holding a box camera.*

THE FINGER IN FRONT OF THE LENS

JACK FRY was delighted with the pictures he had taken with his new Brownie, and he did not hide the fact that he was delighted, as he had only been taking pictures for a few weeks. With a good deal of enthusiasm he showed the results of his efforts to his chum, Harry Blake.

"Just look at them, Harry," he exclaimed, with a fresh outburst, "they're fine, aren't they? Everyone of them good, even though they're some of the first pictures I ever took."

Harry looked at them and acknowledged they were good by mumbling something that sounded like "lucky guy" and then proceeded to growl about his snapshots. Harry had a new Brownie too.

"Dog-gone it," he muttered, "I wish I could get pictures like you do. Here, take a look at the pictures I took. They're terrible. What's the matter with my Brownie anyway?"

"Aw, don't blame it on your Brownie," Jack replied, "there's

nothing the matter with it. There's nothing the matter with any Brownie."

"Well then, why didn't I get as good pictures as you did?"

"Why? Why because I bet you didn't read the manual, that's why. I bet you just went out and snapped pictures and trusted to 'luck.' Now, didn't you?"

Then Jack explained that it was a mighty poor plan to trust to "luck" when good pictures could be made, with certainty, by merely reading and following the instructions in the manuals that came with the cameras. Harry had been so eager to make snapshots that he hadn't even read the manual.

"Now take this one," Jack remarked, holding up one of Harry's prints. "What happened to it?"

"Bad film, I guess," was Harry's excuse, anxious to shift the blame from his own shoulders.

"Bad film nothing. It looks as though you had the end of your finger over the front of the lens. And that's exactly what you did.



The result of holding the camera as shown in Fig. 1

Say," he said with an amused grin, "do you think you could see if I held my fingers in front of your eyes?"

Harry didn't think he could.

"Well then, how do you expect a Brownie to see with its one eye when there's a finger in front of it?"

"See here, Harry," Jack continued, becoming serious, "you shouldn't expect to get good pictures unless you're willing to do what the manual tells you. The first thing you've got to learn is how to hold your Brownie."

"Here, Watch me! I'll show you how the manual says to hold it."

Jack took Harry's 2C and gripped the sides, not the front, so that

there was no chance of getting a finger in the way of the lens and spoiling the picture.

"See how easy it is. Now," continued Jack, "you make two pictures, Harry, one holding the camera the way you used to, and the other the new way. I bet you—"

Harry did as he was told. Then eager to see if it really mattered how the Brownie was held he hurried home, got out his developing tank, and developed the negatives. The results, reproduced on this page, fulfilled Jack's half-expressed prophecy.

"That's the last finger print I try to make with a Brownie," was Harry's comment.



The result of holding the camera as shown in Fig. 2



FIG. 1

NIGHT EFFECTS FROM DAYLIGHT NEGATIVES

THE light conditions that exist during the sunset hour, on days when the sun's position can be seen through masses of gray or colored clouds, are especially favorable for making

pictures that will remind us of night. These pictures usually represent landscape scenes or views across a body of water, with the western sky for a background.

They can be made with any



FIG. 2



FIG. 3

hand camera, without using a filter, by giving the same snapshot exposure that is used for an ordinary landscape during the bright hours of a sunny day.

As the pictures are made with the lens pointed toward the light, so that the darkest instead of the

lightest side of the subject will be photographed, the exposure recommended is too short for recording much of the foreground detail, but it is long enough for recording the clouds and such other very light toned objects as can be seen in the subject.



FIG. 4

The effect that is secured in the finished picture depends solely on the printing. By printing for such foreground detail as the negative may contain, the sky and clouds will be rendered so much too light that the finished picture will remind one of a daylight, or twilight, instead of a night scene. It is only by printing long enough for rendering the clouds in dark tones that a picture which really suggests night can be secured.

Figs. 1 and 3 of our illustrations were printed just long enough for recording the foreground detail. Neither of these reminds one of a night scene, nor does either convey an adequate idea of the lighting effects that the eye saw at the time the subjects were photographed. Many of the important tones, that made the subjects pictorially attractive, are lacking in these pictures, and they are, therefore, unsatisfactory.

Figs. 2 and 4 do suggest night. They were printed long enough for recording the important tones and they possess, in consequence, a much greater pictorial attraction than Figs. 1 and 3.

These pictures represent subjects that are typical of many scenes that appeal more strongly to the observer during the sunset hour than at any other time, because when banks of clouds move across the face of the declining sun the constantly varying lighting effects so change the appearance of earth and sky that an ordinary "scene" is often transformed into a picture.

Since it is the general pictorial

effect, and not the rendering of detail, that is of primary importance in pictures of this type we should never hesitate to print long enough for obliterating some of the detail, if the pictorial effect can be improved by so doing.

We observe very little detail in outdoor objects at night. What we do observe are the predominating light and dark tones, and these are all that we need to record in a picture that is intended to resemble a night scene.

From many a negative that has been made under the conditions we have mentioned, sepia-toned enlargements have been obtained, on Royal bromide, which have been compared with old etchings.



THE SCOT'S GUARD
Made with a Vest Pocket Kodak



Enlarged from negative made by R. M. Kreutz, with a Vest Pocket Kodak fitted with f.7.7 Kodak Anastigmat Lens and Kodak Portrait Attachment



ON THE ROAD TO BOGOTÁ

Made with a 3A Special Kodak, by M. Laurens

PRINTING FACTORS FOR ENLARGING TO VARIOUS DIAMETERS

MANY photographers who make enlargements take a sheet of bromide paper out of every package they use and cut this into full length strips one or two inches wide. They use these strips for making test exposures with enlarging cameras, for determining the right length of time to print whatever size of enlargement they want to make from a negative.

In making the tests one of the strips is placed diagonally across the focused image, two thirds of it is covered with a sheet of cardboard, and an exposure is made. The cardboard is then moved so that only one-half of the part that was covered during the first exposure remains covered, and another exposure, of the same length

as the first, is made. For the final exposure, which is also of the same length, the entire strip is uncovered. If each exposure was 30 seconds the first section of the strip will have received 90 seconds, the second section 60 seconds and the third section 30 seconds exposure.

The entire strip is now developed, for not less than a minute and a quarter, nor longer than a minute and a half, and, unless all of the exposures were much too short or much too long, one of them will indicate the exposure that the enlargement should receive.

The advantage of this method is that the photographer can determine the right length of time to print the enlargement without making the test exposures on as

large a sheet of paper as would be needed for printing the entire picture.

Some workers prefer, however, to judge the correctness of the printing by examining the entire picture, instead of only a section of it.

All who prefer the latter method can accurately and economically determine the right length of time for printing enlargements of $1\frac{1}{4}$, 2, $2\frac{1}{4}$, $2\frac{1}{2}$, $2\frac{3}{4}$, 3, $3\frac{1}{4}$ and $3\frac{1}{2}$

diameters, with the Kodak Auto-Focus Enlarger, by first determining the right length of time for printing a $1\frac{1}{2}$ diameter enlargement, which can be made on a sheet of bromide paper that is only $1\frac{1}{2}$ times as large as is needed for making a contact print. This printing time is then multiplied by the factor given in the table below, for the diameter of enlargement that will give the size of picture that is wanted.

PRINTING FACTORS FOR ENLARGING TO DIFFERENT DIAMETERS
WITH THE KODAK AUTO-FOCUS ENLARGER

Diameter of Enlargement,	$1\frac{1}{2}$	$1\frac{3}{4}$	2	$2\frac{1}{4}$	$2\frac{1}{2}$	$2\frac{3}{4}$	3	$3\frac{1}{4}$	$3\frac{1}{2}$
Printing Factor,	1	1.21	1.44	1.69	1.96	2.25	2.56	2.89	3.24

To illustrate: If the length of time it takes to correctly print a $1\frac{1}{2}$ diameter enlargement is 30 seconds, then, for a $2\frac{1}{2}$ diameter

enlargement it will be 30 x 1.96 58.8 or 59 seconds, and for a $3\frac{1}{2}$ diameter enlargement it will be 30 x 3.24 97.2 or 97 seconds.



TENTATIVE DEVELOPMENT

BEFORE it was discovered that several negatives could be correctly developed together in a tank, photographers developed their negatives, usually singly, in a tray. A common practice was to judge, by the appearance of the image in the early stages of development, whether the exposure the film or plate had received was correct or not, and if, in the opinion of the photographer, the exposure was not correct changes were made in the developer as soon as the exposure error was discovered. These changes were made in the belief that the developer could counteract the effects of under-exposure or over-

exposure. This was a tentative or experimental method of development.

Viewed in the light of modern knowledge tentative development is a profitless procedure, not only because it is wasteful of time and chemicals, but chiefly because the theory on which the method is based has been proven erroneous.

A negative is made by exposing a film or plate in a camera and then developing it. In discussing tentative development we have, therefore, but two things to consider—exposure and development.

The record the light makes on a film or plate is determined solely

by the exposure. How much or how little of the light record the finished negative contains is determined solely by development. Where the light has made no record the developer cannot produce an image. Trying to coax out an image which is not latent in the film is a hopeless procedure, and the theory that by diluting the developer, or by adding carbonate to the developer, in tentative development, more detail can be developed than by any other method, is all wrong.

The companion theory, that bromide of potash will increase contrast in an over-exposed negative if it is added to the developer after the negative has been developed far enough to show that it really was over-exposed is likewise erroneous. The image in an over-exposed negative flashes up so quickly in tentative development that the shadow detail usually becomes visible before one can discover that the negative was over-exposed. If bromide is added to the developer after this shadow detail has become visible it will slow the development but will have very little, if any, influence on the contrast of the negative. In order to increase the contrast the bromide must be added to the developer *before* the shadow detail is visible.

Since tentative development neither enables us to add detail to under-exposed

negatives or contrast to over-exposed negatives it offers no practical advantages whatever. By far the best method of developing negatives is to develop them for a given time, with a developer of given strength, at a given temperature. This is the method employed in tank development. It is equally suitable for tray development, though in tray development it is advisable to use only $\frac{1}{3}$ as much water in making up the developer and to develop for only $\frac{1}{3}$ the length of time recommended for tank development.

Strange as it may seem, when correctly exposed, under-exposed and over-exposed films are all developed together, according to instructions, for the same length of time in a Kodak Film Tank, they will all make good prints, unless the incorrectly exposed ones were hopelessly under-exposed or over-exposed. From hopelessly bad exposures it is manifestly impossible to obtain good negatives by any known method of development.



HAPPY MOMENTS

Made with a Vest Pocket Kodak



CHILDREN OF THE ORIENT

*Made by Kametaro Ishida, with a No. 3 Special Kodak
fitted with f.7.7 Kodak Anastigmat Lens*

SERVICE DEPARTMENT TALKS

UNDER-EXPOSED NEGATIVES

DURING the summer months a great many pictures are made shortly before and shortly after sunset.

If they are made with a Graflex, a Special Kodak or any other camera that is fitted with an anastigmat lens, and exposures of $\frac{1}{5}$ second with stop $f.6.3$, or $\frac{1}{10}$ second with stop $f.4.5$, are given, negatives containing ample detail, of subjects that are out in the open with nothing but the sky overhead, can be secured. If, however, they are made with a camera that has a rectilinear or a single lens, and snapshot exposures are given, the negatives will be under-exposed.

When snapshot exposures, that is, exposures that are not longer than $\frac{1}{25}$ of a second, are made too near the sunrise or sunset hours, the negatives will be so much under-exposed that they will not make satisfactory daylight pictures, but if these under-exposed negatives contain strong lights in contrast with dark shadows, pictures that suggest night scenes can be made by the method described on page 20.



*For any information you may desire regarding
amateur photography address*

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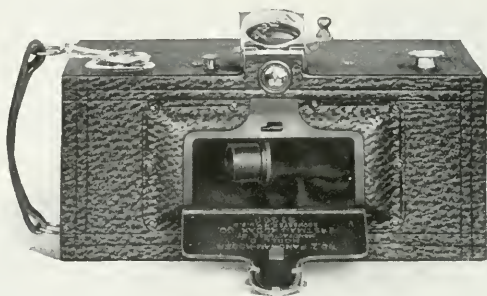
<i>Made in three sizes—</i>	<i>3¼ x 4¼</i>	<i>4 x 5</i>	<i>5 x 7</i>
Prices, without lens . . .	\$73.50	\$83.00	\$119.50
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Anastigmat lens f.4.5 . . .	\$101.00	\$115.00	\$170.00

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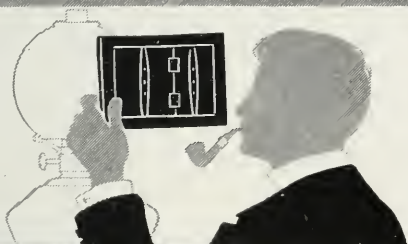
Price of Panoram Kodaks

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Anastigmat lens *f.7.7*

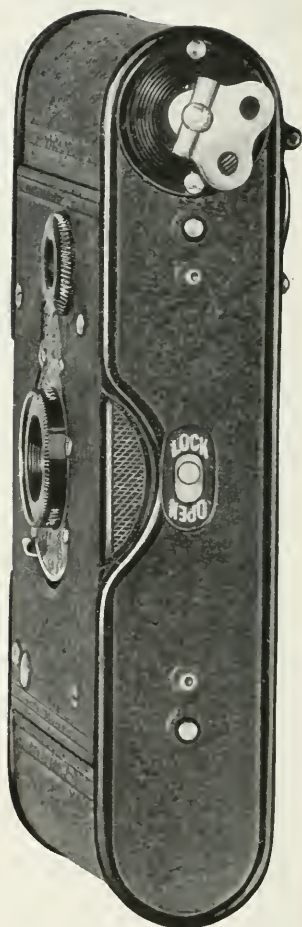
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A
MAGAZINE *for* AMATEUR
PHOTOGRAPHERS



AUGUST 1922



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2—Raise the camera on its stand and the image expands—lower it and the image shrinks to the size desired.

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That's all there is to it—sharp focus is constantly maintained by the automatic focusing mechanism.

The Enlarger takes negatives up to 4 x 6 inches and makes prints on Bromide Paper up to 14 x 21 inches. Complete with Kodak Anastigmat Lens, negative holder, paper holder, set of flexible metal masks in six sizes and electric cord and plug, but without the 60-watt Mazda Lamp required for illumination.

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THE BRINK OF ADVENTURE

Enlarged from a No. 2 Brownie Negative—Made by Mrs. Theodore Larson

KODAKERY

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NUMBER ONE

AT THE SIGN OF THE SNAKE SKIN

BY HOWARD TAYLOR MIDDLETON

Illustrated by the Author

IT was in July, the flying up month, when the thunder moon rides the night sky and the baby birds are fast forsaking their woodland cradles.

In the heart of an old apple orchard, at the base of a sawed-off limb, resided the great-crested flycatchers. While there was nobody at home when we called, it



NUMBER TWO

took but a glance to establish the identity of the tenants. Within the open doorway was a piece of shed snake skin, the insignia of the great-crested flycatcher clan.

The sun was blazing a trail of crimson and gold through a fleecy cloud bank low on the western horizon as a flycatcher perched above our heads and tendered us a quizzical look of interrogation. We immediately "froze" to test its fear of humans. To our intense delight, our presence was accepted in a most friendly way, the bird flying to the nesting hole within a few feet of where we stood, and while it showed great curiosity, gazing at us with head cocked to one side, there was no sign of fear. Then, utterly indifferent, it slipped out of sight within the hole.

"No use trying for pictures until tomorrow," declared Pal,

with a glance at the failing light. "We'll come early and make a day of it"—and so it was arranged.

"I have always yearned for a front door portrait of a denizen of birdland," exclaimed Pal earnestly, as we trudged orchardward the following morning.

"Well?"

"Going to get it with the Premo. When the camera is set up and focused on the hole, we'll wait until one of the birds is at home; then I'll tap the trunk gently with a switch, and when the bird sticks its head out, you'll take the picture."

"Sounds easy."

"It will be easy; do as you're told, and you'll see."

I did and I saw. (Number One).

"For the next picture we'll use the Graflex," ordered Pal, her enthusiasm waxing more intense with every thrilling moment. "I'm keen for action stuff!"

"I await your commands," I assured her.

"All right, place the R. B. Graflex on the tripod and adjust the revolving back for a horizontal picture. This will give you a wider field in which to score a hit. Then drive a stake beneath the camera and fasten a screw-eye in the top; loop the end of a thread round the shutter lever and run it through the screw-eye back to that apple tree.

"Now remember," came Pal's final warning, as I stood, thread in hand, waiting for a chance at an action picture, "you're shooting a flying bird, and you must lead it a foot or two."

"Lead it?"

"Yes, just as you would when

shooting with a gun. In such close-up work you must pull before the bird gets in the picture, or you'll be too late."

Just then one of the flycatchers appeared, winging straight for the hole.

"You shot behind it!" scoffed Pal. "Don't hold your fire so long next time."

"I did miss the action picture," I admitted cheerfully, "but I'm betting I captured a unique pose just the same. The camera caught that bird clinging to the hole with head turned backward in most interesting fashion. Wait till you see the negative and you'll agree with me, Mrs. Skeptic." (Number Two).

"Perhaps," came the cautious reply.

Again I stood rigid, thread in hand, while a parent flycatcher came flying homeward. When the swiftly moving bird was about two feet from the hole, I pulled the cord. Number Three shows that the exposure was made at just the right moment.

"I wonder," quoth Pal a few moments later as, bubbling over with curiosity, she stood peering into the flycatcher nesting hole, "if those little chaps are old enough to be photographed."

It was a tight squeeze for even her little fist, but at length three baby flycatchers were brought forth and deposited very carefully upon a sprig of apple. The Graflex on its tripod was focused upon the infant trio. In a little while a



NUMBER THREE



NUMBER FOUR

parent came to feed the children, and, as a delicious morsel of fuzzy worm started on its way to the tummy of little Willie in the mid-

dle, the Graflex recorded the incident. (Number Four).

"A family ensemble, and we'll call it a day," announced Pal.



NUMBER FIVE



NUMBER SIX

Let me explain a bit in order that you may better understand the sort of stunt Pal had selected as a finale. Parent birds often feed their young for hours without both visiting the nursery at the same time; therefore, to catch the whole family at home long enough to photograph them all together is rare good fortune.

I consulted my wrist watch. In another half hour at the most the

sun would sink behind the trees. We could but watch and wait and hope.

"Cheep!" called a hungry baby from the apple sprig.

"Ch-u-u-p!" replied a parent from somewhere near. Looking upward, we spied the feathered beauty on a limb above our heads; it would visit the studio soon.

We crouched in ambush, every nerve tense, eyes on the alert,

searching for the other flycatcher.

"Che-e-u-up!" There came a flash of olive and sulphur-yellow, and he arrived. Though both sexes are alike in size and coloring, now that the two adult birds were in sight, the male was distinguishable from his mate because of his domineering attitude and slightly more pronounced crest.

In his beak a white moth fluttered its life away, while he again uttered his grating call. The mother flycatcher answered and drew nearer still.

Pal's hand caught mine and held it hard; the suspense was hard to bear.

Another flash of wings in the

westerling sunlight, the exposure made, and the family ensemble was ours. (Number Five).

I am sure it was a week later that a cross-country hike brought us again through the old orchard. Imagine our joyful surprise when we encountered one of the nestlings, fully feathered now and quite the man of the world, as he perched jauntily among the ripening fruit of his home tree.

Stalking the brave young adventurer with the Graflex, we caught his image at a most interesting stage of development—that of a young blade of birdland ready to start out and see the world and to conquer it. (Number Six).



COUNTING SECONDS

WHEN making time exposures it is often desirable to count seconds without consulting a watch. It is difficult to time a one second or a two second exposure with a watch because the dial that records seconds on most watches is very small, and in poor light the markings that indicate seconds cannot be distinctly seen.

An easy method of counting seconds, that is sufficiently accurate for photographic purposes, is to repeat a phrase that it takes one second to pronounce. The majority of people will require one second of time to pronounce the words, one hundred and one, as rapidly as clear enunciation will permit. The last word of the sentence should always indicate

the number of seconds that have been counted. Six seconds, for instance, should be counted; one hundred and one, one hundred and two, one hundred and three, one hundred and four, one hundred and five, one hundred and six.

Many who use this method can count from 30 to 60 seconds without varying more than one or two seconds from the time recorded by a watch. An error of two seconds in a time exposure that is intended to be more than five seconds long can scarcely be detected in the negative. While this is a simple and reasonably accurate way of counting seconds for short time exposures, long time exposures should be timed with a watch, whenever possible.



When the chief objects of interest on a landscape are very far away the subject should be classed as a distant landscape

DISTANT LANDSCAPES

AUTHORS of exposure guides classify landscape subjects under three headings.

These are designated distant landscapes, ordinary landscapes and nearby landscapes.

These classifications are not purely arbitrary but are based on the fact that the distance between the camera and the particular landscape features that are to be the chief objects of interest in the picture, affects exposure.

A distant landscape may be defined as one on which the chief object of interest (hills and valleys, streams and bodies of water etc.) are from, say, half a mile to

several miles from the observer.

An ordinary landscape is one on which the chief objects of interest (trees, fences, buildings, roadways, cattle etc.) are within a few hundred feet of the observer, and a nearby landscape is one on which the chief objects of interest are less than 50 feet away.

In photographing an ordinary landscape or a nearby landscape we expose for the foreground detail, but in photographing a far distant landscape, we expose for the chief objects of interest are distance.

The problem in distant landscape work is to secure ample



In an ordinary landscape scene the principal objects of interest are in the middle distance

contrast between the tones. The farther away the subject is the less will be the visible contrast between the earth and sky and landscape objects, and the less will be the contrast between the tones in the picture.

Since nearby objects always look larger than objects that are far away, their shadows, which appear as dark tones in contrast with lighter ones, will be more prominent, and add more contrast to a picture, than the shadows of far distant objects.

The atmosphere also affects the securing of contrast between the tones in distant landscape work. The air usually contains particles of dust and more or less water vapor. In speaking of water vapor

we do not mean fog or mist, which is composed of comparatively large water particles, but we mean the faint haze that is often seen in the distance and which is largely due to extremely minute water particles.

On a clear summer day the dust and water vapor suspended in the air that is between the camera and objects a few hundred feet away is usually unnoticed, but that suspended between the camera and objects a mile or more away is often sufficient to be visible as a bluish haze in the distance.

In order to understand why this haze is bluish we must remember that light consists of waves and that the different colors of light correspond to waves of different



In a picture of a nearby landscape the objects of greatest interest are in the foreground

lengths, the longer waves being red and orange, those of medium length being green, and the shortest waves are those of blue and violet light. Light waves which are shorter than violet are not visible to the eye, but they do affect the photographic film, and the light of these waves is called ultra violet.

The light waves which are scattered by the particles of water vapor are chiefly the shorter waves, that is, the blue-violet and especially the ultra violet. If we remove the shorter light waves, therefore, we shall get rid of most of the scattered light and can take the picture by the other rays which penetrate the haze and are not scattered by it. The shorter light waves are absorbed by a Kodak Color Filter, which cuts out the ultra violet and violet rays so that the scattering effect is largely

eliminated, and, as a consequence, contrast between the tones of the subject is increased. Still more contrast can be secured with a Wratten K2 Filter, as this filter is of a deeper yellow color and cuts out more of the violet and blue.

For special work, such as photographing far distant snow capped mountains against a clear sky, or other very distant scenes in which strong contrast is wanted, a Wratten G Filter, which is a deep yellow contrast filter, should be used.

In photographing distant landscapes we must be careful not to overexpose the film, because overexposure reduces the contrast between the tones. On a distant landscape no tones can be seen that are as dark as the shadows of nearby objects, the shadows on a distant landscape appearing faint and of about the value of the half-tones (the tones between the light

and dark ones) seen in a subject a few hundred feet away.

In many regions where the distance appears hazy in warm weather, the air becomes so clear when the temperature drops after a storm that distant landscapes can be clearly recorded without a filter.

When no filter is used $\frac{1}{50}$ of a second, with stop 16, is ample when the sun is shining.

When using filters the writer has obtained very satisfactory results by using stop 16 and giving a $\frac{1}{10}$ second exposure with the Kodak Color Filter, a $\frac{1}{5}$ second with the Wratten K2, and a 1 second exposure with the Wratten G Filter.

As distant landscapes always require comparatively short exposures it is very important to fully develop the negatives.



ON THE ROAD TO CONSTANTINOPLE

Made with a Revolving Back Graflex, by Merl LaVoy



LET IT RAIN

Made with a No. 1 Kodak Jr., by Sam Schlup



IN GLACIER NATIONAL PARK

Made with a Graflex, by Norman R. Smith. Exposed from 8 to 9 P. M., Aug. 13; stop f/4.5

WHEN NIGHT COMES

THE opportunity for making out of the ordinary pictures frequently comes at the close of the evening twilight period and lasts well into the night. The result of giving a long time exposure, on a night when there is no moon, with the lens pointed across a body of water, or toward some prominent landscape object, is sometimes quite surprising.

Every stationary object that can be seen at night can, of course, be recorded by the film. But the film is capable of doing more than this, as is evidenced by the fact that many a night picture, which was made with a long time exposure, has contained images of objects that the photographer could not see at the time the exposure was being made.

Night pictures, like daylight pictures, should always contain the three principal tones—highlights, halftones and shadows. This does not mean that the strongest lights in the picture should be white. They may be gray and still be highlights, provided there are darker grays for the halftones and blacks for the shadows.

Blacks and grays can be seen in every outdoor subject which is visible at night, and the lighter tones, which are to represent the highlights, can often be seen reflected from water or from white buildings. Some source of light, or some object that is brightly illuminated by a light that is outside the field of view of the lens, will also furnish the highlights.



THE STEEL MILL

Made with a Premo, by Alf. Erichsen. Exposed for 6 minutes, shortly after dark; stop f.8

Our illustrations suggest some of the possibilities of this branch of work. The data under Mr. Smith's picture tell us that this was made during the hours of darkness—after twilight had departed. The comparatively short exposure that Mr. Erichsen's picture received indicates that it was made before twilight had wholly merged into night.

When landscape pictures are made during the twilight period which begins at sunset and lasts until the sun's rays no longer illuminate any visible part of the sky, the lighting effects that the negative will contain will be determined by the lighting of the sky. Though direct sunlight leaves the landscape as soon as the sun passes below the skyline, the sun's rays still continue to illuminate the sky until the close of the evening twilight period.

If landscape pictures are made shortly after sunset, when there

are no clouds visible, the sky will be rendered in so light a tone that the pictures will not suggest night. Since the difference between the brightness of the sky and the brightness of the landscape is always much greater during the early part of the evening twilight period than at any other time of day, real night pictures, showing dark skies, with bright lights reflected from the landscape, can best be made after all traces of sunlight have departed from the evening sky.

No definite exposure rule can be given for outdoor night photography, as pleasing results have been obtained from exposures that have ranged all the way from a few minutes to an hour.

Those who have engaged in this branch of work have found that the latitude of the film is so great that it takes care of any reasonable errors in exposure.

CAMERA RECORDS OF C



Made with a Graphic, by Dr. J. B. Pardoe



Made with a Graflex



Made with a 3A Kodak, by
A. M. Mollin



Made with a Graflex



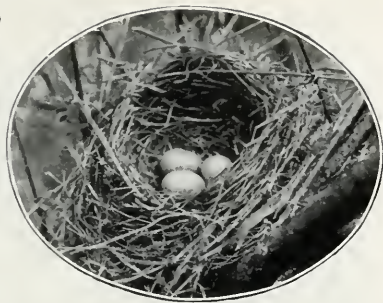
Made with a Kodak, by
Neil Marshall

FEATHERED FRIENDS

FROM KODAK, GRAFLEX
AND GRAPHIC PICTURES



Made with a Graflex



Made with a Graflex



Made with a Graflex



Made with a 3A Special Kodak, by
Raymond C. Deitz



Made with a No. 1A Kodak, by
Esther Hencock

MARINE AND BEACH SCENES

THE subjects that are called "marines" in photography are all large bodies of water, such as oceans, lakes and other scenes in which water and sky occupy the greater part of the view that is to be included in the picture.

Beach scenes are views of lake and ocean beaches, in which water and sky and beach sand predominate.

Marine and beach scenes are

classed in the same group because they require the same exposure. It is as easy to make good pictures of these as of ordinary landscapes, and, when photographers who succeed with landscapes fail to get good pictures of marine and beach scenes it is, probably, because they overlook the fact that much more light is reflected from large bodies of water and from sandy beaches than from ordinary landscapes.

This reflected light, on cloudy as well as on sunny days, is so monotonously uniform that there is much less difference in the brightness of the light that is reflected from different parts of the surface of the water, or the sand, than there is in the light that is reflected from different parts of a landscape.

The problem, therefore, is to get sufficient contrast in the picture. If there are white clouds in a blue sky a Kodak Sky Filter will record them, with a snapshot exposure. This will add contrast, by rendering the clouds white and the sky gray. But we need more than this, for there should be dark as well as light tones



Made with a Graflex, by E. J. Schaefer

in the parts of the picture that represent the water or the sand.

The way to get dark tones on sandy beaches is by placing some prominent object on the sand, or by tramping footprints in the sand, and making the picture from a viewpoint which shows the shadows of these.

The way to get dark tones on water, when no boats are within, say, 100 feet of the lens, is to make the picture at a time when there are waves on the water, with the sun in front, or to one side of the camera, so as to photograph the shadow side of the waves.

When working with the sun in front of the camera the lens must be shaded, unless the sun is behind clouds. If this is not done the picture will be fogged.

The way to shade a lens is by holding a hat, or anything else that is available, above the camera, so that it will cast a shadow on the lens. It must be held so that it cannot be seen in the finder, or it will cut off a part of the view that the negative should record.

Mr. Schaefer's picture was made from a viewpoint which showed the shadows of the waves. Had this been made with the sun



Made with a No. 3 Special Kodak, by Wm. E. Leonard.

directly behind the camera no shadows could have been seen and the water would have been rendered in a much lighter tone.

Mr. Leonard's picture is typical of results that can be secured on cloudy-bright days. Pictures similar to this can always be made just before sunset, if the sun is partly obscured by clouds.

The pictures on page 20, made by Mr. Brown and Mr. Reeves, tell stories of summer days on the beach. Such story telling pictures are always of interest and will always be treasured by the children and their parents.

When making photographs at



Made with a Graflex, by E. J. Brown

watering places it is important to not a sandy beach. Miss Humes' remember that every lake shore is picture, on page 21, for instance,



Made with a Graflex, by M. W. Reeves



Made with a No. 1 Kodak Jr., by Cornelia B. Humes

was made on a grass covered bank, beach scene, it should be regarded
and, instead of classing this as a as a nearby landscape view. Such



Enlarged from Vest Pocket Kodak Negative. Made by Dr. Albert Demaud

a subject requires four times as long an exposure as a beach scene.

Neither is every view on a large body of water a marine. Dr. Devaud's picture, on page 21, is a story telling picture, which also requires four times as long an exposure as a marine.

The exposures that are recommended for marine and beach scenes, from $2\frac{1}{2}$ hours after sunrise to $2\frac{1}{2}$ hours before sunset, on sunny days are:

With cameras that have anastigmat lenses, $\frac{1}{25}$ second with stop f.22.

With rectilinear lens cameras, $\frac{1}{25}$ second with stop 32.

With Folding Kodaks, Premos and Brownies that have single lenses, $\frac{1}{25}$ second with stop 3.

With fixed focus box cameras that have single lenses, a snapshot with the second stop.

On cloudy-bright days the same exposure should be made with the next larger stop.



FOR BLUE AND YELLOW FLOWERS

A Kodak Color Filter makes blue flowers photograph darker and yellow ones lighter than they would if no filter were used.



THRESHING GRAIN IN MEXICO

Made with a Kodak, by Sumner W. Matteson



AN INDOOR PORTRAIT
Made with a 3A Kodak



LAKE LOUISE

Made with a 3A Special Kodak, by D. S. Houp

THE FLOWER OF THE FAMILY IN THE WHEAT FIELD

THE Phillips family believe in a quiet holiday—they almost always spend their vacation at Uncle Joe's farm. There are no balloon ascensions at Uncle Joe's or merry-go-rounds, or Jazz Bands but it's cool and comfortable and there's the Pony to ride and the apple orchard and the wheat field and the creek.

Mother and father were lounging on the porch, from where they could see their three youngsters trying to lasso a calf, when Uncle Joe brought out a Kodak album.

"Remember the pictures we took out here two years ago today?" asked Uncle Joe. "Thought you might like to see them again. Some of them I made with the Kodak and Bob made some with his camera."

"That was the first summer he had his Brownie," explained mother, who had opened the album. "Here's the picture of Mary standing in the wheat field."

"Great year for wheat, that was," said Uncle Joe. "Made about thirty-five bushels to the acre."

"How does it look this year?" asked Mary's father.

"Looks better than ever. Had corn on that ground last season you know, and the wheat is coming along fine. Maybe we ought to go down and look at it."

So the youngster's wild west show came to an end—the calf was still the winner—and the whole family followed Uncle Joe to the field.

"Take my picture again, Uncle Joe," pleaded Mary. She was posed in the wheat as two years before, and Uncle Joe's Kodak and Bob's Brownie soon had snapped her.

"That wheat isn't as tall as I thought," Uncle Joe remarked perplexedly. "Looked to me like it was a good bit farther along than usual. But it hardly comes to Mary's shoulders now and two years ago it was right up around her neck, according to that picture we just looked at. Doesn't seem possible there'd be so much difference, does it Ed?" he asked his brother in astonishment.

But the mother of the Phillips family beat her husband to the answer to Uncle Joe's question.

"If that isn't just like an old bachelor. I suppose you think Mary's shoulders are just where they were two years ago. Why she was only ten years old then and

she's grown almost a foot since. You can't measure wheat by her, year after year. She keeps right on growing, instead of having to get a new start every spring, as the wheat does."

"I never thought of that," confessed Uncle Joe. "We'll have to measure Mary's growth by the wheat instead of vice versa." So it was agreed that every year at harvest time Mary should pose in the wheat field for a new picture.

"This autographic device is a valuable arrangement, all right," said Uncle Joe, as he wrote on the film, *Mary, age 12, Aug./1/22*, "especially if you have to keep track of a youngster's growth."

Then he exposed the autographic inscription for a few seconds, closed the slot, wound another film into place and piloted the party toward the apple orchard.



GARDENS OF VILLA UMBERTO, ROME

Made with a 3A Kodak. Exposure 1/5 second; stop 16



WHAT THE CAMERA SAW BENEATH THE SURFACE OF THE SEA

PHOTOGRAPHING THE DEPTHS FROM THE HEIGHTS

AVIATORS flying over the ocean discovered that they could see objects that were several fathoms below the surface. Few photographs are on record, however, to prove that fact as conclusively as does the one reproduced above, showing a fleet of Jonah's submarines.

These three whales were swimming below the surface of the sea apparently oblivious to the whirling plane above them. The exposure was made from almost directly overhead.

This picture contains points of interest to marine engineers, ichthyologists, oceanographers and

astronomers as well as photographers.

It shows clearly the streamlines produced by whales in motion. The streamlines of "swim forms" are studied by boat builders just as those of "flight forms" are studied by aircraft engineers.

Still more distinctive is the white line shown near the bottom of the picture. It is the meeting of the incoming with the outgoing tide—a phenomenon rarely witnessed and almost never photographed.

The photograph, made by the Royal Air Force, is reproduced with permission of the British government.



THE ROOFERS

Made with a 3A Kodak, f.5.7 Lens, by Edgar S. Smith

SERVICE DEPARTMENT TALKS

GRAY MARGIN NEGATIVES

THE gray margins, which are sometimes found on tray developed negatives, indicate fog which extends over the entire surface of the negative.

A gray margin negative will not make as good a print as one that is free from fog.

Gray margins are produced by one or more of three causes—an unsafe darkroom, an unsafe darkroom lamp, and a wholly unsuitable developer.

To test the darkroom, remain in it for about three minutes while it is closed and all lights are turned off. If at the end of this time you can see any light, close the openings through which it comes.

To test the darkroom lamp, first be sure that the room is light-tight, then, in total darkness, place an unexposed film in a printing frame and cover one half of it with black paper or a piece of cardboard. Turn on the darkroom lamp and place the frame at the same distance from the lamp that the developing tray is placed during development, leaving it there for five minutes. Develop this film for five minutes, in total darkness, then place it in the fixing bath.

If, after the film is thoroughly fixed, no difference can be detected between the part that was covered and the part that was left uncovered, your lamp is safe. If one part is darker than the other your lamp is not safe, and it should be fitted, preferably, with a Wratten Series 2 Safelight.

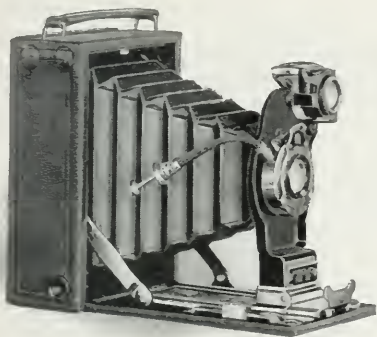
If the entire film is gray you are getting chemical fog, which is caused by an unsuitable developer. In this case write to us at once, sending the fogged test film, together with the formula for the developer you are using. If you use a developer preparation tell us its name and how you mix it for use.

The surest way to avoid both chemical and light fog is by developing negatives in a tank, according to the instructions that are furnished with the tank.

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TORONTO, CANADA



Premo No. 12

Pictures

$2\frac{1}{4} \times 3\frac{1}{4}$
inches

FOR a pocket camera, Premo No. 12 has two unusual features:

Cut film, film packs, roll film and plates may be used interchangeably.

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Thus the amateur who uses a Premo No. 12 has a choice of method and material for each subject.

The price of Premo No. 12 with Kodak Ball Bearing shutter and Rapid Rectilinear lens, including film pack adapter and plate holder, is \$20. It is also offered in a variety of other equipments, including the Ilex shutter and B. & L. Tessar, Series 1c, lens *f*.4.5. A special roll holder and cut film sheaths are supplied separately.

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For Velox and other developing papers—



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The preparation itself is then subjected to a critical laboratory test that must prove it correct for photographic use.

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*Look
for this seal:*



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2 tubes, 15c*

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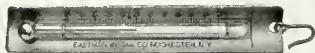
GRAFLEX

THE basic Graflex features are as valuable when making indoor portraits or slow snap-shots as when catching swift action scenes. The reflecting mirror shows a big, brilliant image of the subject, right side up. You *know* when the focus is sharp. You *see* what the view includes. High speed lens and efficient shutter facilitate proper exposure—especially if the lens is the Kodak Anastigmat *f.4.5*.

Graflex catalogue by mail or at your dealer's

Canadian Kodak Co., Limited
Toronto, Canada

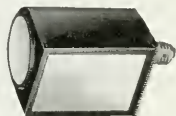
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WITH a hook for suspending, and with its back curved to fit the inside of the tank, this accurate and dependable thermometer is emphatically desirable photographic equipment.

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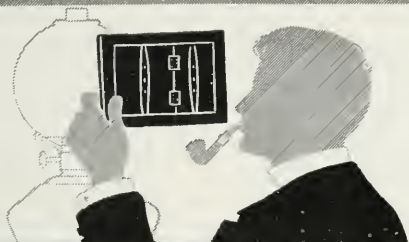
SCREWS into an electric socket which may be conveniently situated close to the place where the work is to be done. A 15-Watt Mazda Lamp is used, but is not supplied.

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Equipment :
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Lens *f*.6.3 and
Kodamatic Shutter
Price, \$50.00

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KODAKERY

A
MAGAZINE *for* AMATEUR
PHOTOGRAPHERS



SEPTEMBER 1922



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TORONTO, CANADA.

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PRICES

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TROPHIES

Made with a Graphic, by Dr. J. B. Pardoe

KODAKERY

A Journal for Amateur Photographers



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VOL. IX

SEPTEMBER, 1922

No. 11



A CULINARY CRISIS

Made with a Graphic, by Dr. J. B. Purdow

VACATION RECORDS

MEMORIES that we always like to treasure are those of our care-free vacation days, but, so many and varied are these experiences, that the only ones we can clearly recall in after

years, without assistance, are those that especially impressed us; and even these gradually fade into mere outlines unless we have something more enduring than a mental record.



Made with a Graphic, by Dr. J. B. Pardoe

Of the records that will recall vacation days none can compare with the pictures that show the people with whom, and the scenes amid which, we passed so many happy hours.

A pictorial record can be secured in an instant, by making a snapshot with a camera, and the picture thus obtained will convey its message more briefly, more comprehensively and with greater accuracy than any written record can.

In picturing a vacation we should not forget to make the particular kinds of pictures that will tell the vacation story. Landscape scenes and portraits are important, but these do not tell the story; they only tell us where and with whom our vacation was spent. The story is a record of incidents,

and this story is told by pictures that show our fellow vacationists engaged in fishing, boating, hunting, or pursuing such other pastimes as filled their days with joy.

Our illustrations are typical vacation story telling pictures. Aside from the pictorial interest, which appeals to all, there usually is, in all such pictures, a secondary interest which especially appeals to the subjects and the photographer. This secondary interest is created by a rock, a stump, a camp stool, or what not, any one of which may recall interesting incidents that the picture does not directly record.

The picture above, for example—a pictorial record of a meal in camp—provides strong secondary interest with the little boy and the water-melon.



Made with a Graphic, by Dr. J. B. Pardoe

The exposures to give for vacation pictures, from 2½ hours after sunrise until 2½ hours before sunset, on sunny days are:

	Shutter Speed	Anastigmat Lenses Stop	Rectilinear Lenses Stop
Distant landscapes and views across large bodies of water	$\frac{1}{25}$ second	f.22	32
Ordinary landscapes showing sky, with prominent object in the foreground....	$\frac{1}{25}$ second	f.16	16
Nearby landscape showing little or no sky—Groups	$\frac{1}{25}$ second	f.11	8
Portraits and story telling pictures, in open shade not under trees or roofs of porches—Shaded nearby scenes	$\frac{1}{25}$ second	f.7.7 or 8	4
Groups—Portraits and story telling pic- tures on porches or under trees	1 to 5 seconds	f.7.7 or 8	4

When using Folding Kodak, Brownie and Premo Cameras that have single lenses, the following exposures should be given:

	Shutter Speed	Stop
Distant landscapes and views across large bodies of water	$\frac{1}{25}$ second	3
Ordinary landscapes showing sky, with prominent object in the foreground	$\frac{1}{25}$ second	2

	Shutter Speed	Stop
Nearby landscape showing little or no sky—Groups.	$\frac{1}{25}$ second	1
Portraits and story telling pictures, in open shade not under trees or roofs of porches—Shaded nearby scenes	1 second	4
Groups—Portraits and story telling pictures on porches or under trees	2 to 10 seconds	1

When using Fixed Focus Box Cameras that have single lenses, the following exposures should be given:

Distant landscapes and views across large bodies of water	Snapshot with second stop
Ordinary landscapes showing sky, with prominent object in the foreground	Snapshot with largest stop
Nearby landscape showing little or no sky—Groups	Snapshot with largest stop
Portrait and story telling pictures, in open shade not under trees or roofs of porches—Shaded nearby scenes	1 second with third stop
Groups—Portraits and story telling pictures on porches or under trees	2 to 10 seconds with largest stop

The exposures on cloudy days should be from two to four times as long as those stated in the preceding tables.



POTTERY VENDORS NEARING FIESTA AT LOS REMEDIOS



Made with a Premo, by Leopold Zwarg



Made with a Premo Special, by Alf. Erichsen



LAST DAYS OF POMPEII

FANTASIES IN FIRE

BY ALBERT CRANE WALLACE

With Illustrations by Wm. P. Sipes

I CAN remember seeing the first photographs of lightning. They were a great revelation to artists. Before photography, art had made many wrong guesses. It made wrong guesses as to how horses galloped, for instance. Lightning had been indicated in broken fragments of straight lines. Photography showed lightning like white rivers with no straight line anywhere.

The fact is that what we call a lightning flash is the traveling of a spark or series of sparks. The movement is so quick that even

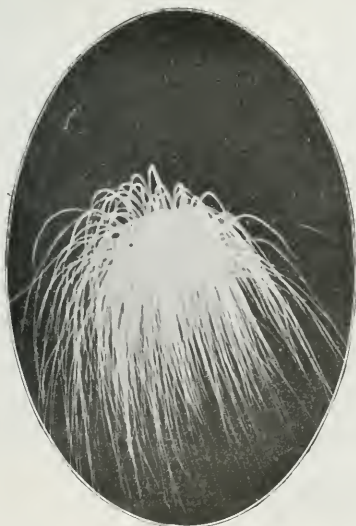
quick photography shows it as a wriggling streak of fire.

As photography grew quicker pictures of fireworks improved in quality, for much depended on the impression of varied spark formation in the showers of light. There were thin and thick streams—spattering lines and even lines crossing and offsetting one another, according to the make-up of the explosives.

The beauty of such flashes is in the curves and the interplay of curves. One of the things we learn from the study of such things—



LAST DAYS OF POMPEII



A FINE PLUME



SKY PATTERNS



LINE BEAUTY

and these lines are worth studying—is that lines of beauty are not an invention of art. They happen because of natural laws. The curving of a thrown base ball represents the natural interaction of propulsive force and gravitation. The burning powder in fireworks tosses the sparks. Gravitation does the rest.

No, not all of the rest. Wind may come in to add variation. In that case wind and gravitation take up the making of the shower curves. And when we say wind we mean air in motion, which reminds us that air even when not in motion is an influence. If the air were not, like water, a medium to be reckoned with, each spark would drop straight downward.

All this sounds scientific, doesn't it? But I want to make the point that "beauty lines" in which the



SPLENDORS OF TRACERY



photographer is so much interested, are all based on natural laws. I want to make the point that we think things are beautiful when they illustrate these natural laws. We try tricks in art, but all journeys lead straight back to the source of all of our ideas of beauty—Nature.

The tree branch, the ostrich plume, the waterfall, the loop of a chain on my lady's neck, the bending of a lily stem—all these and a thousand other expressions of curve all represent inevitable lines fixed by natural laws.

There is always a picture delight in getting these lines in new ways as chance may express them. Against a dark sky the jewels of fire suggest strings of diamonds against black or deep blue velvet.

Mr. Sipes' pictures place before us a charming series of line bouquets. The "Pompeii" pictures were made with three or four seconds exposure to gather in a number of actions in the burning powder—as when we leave the camera open to get a number of



AN ODDITY

flashes of lightning. For the other pictures the exposure was generally of about one second, thus separating the examples or capturing those that came closely together. The explosion not being always directly upward the angle of upward curve varies. The downward curve is affected correspondingly, with the right breeze adding its part.

Sometimes the suggestion is of a chrysanthemum, sometimes of a feather plume, sometimes of a silvery spray from a fountain. The aigrette is very frequently imaged. The striking thing is the wonderful harmony—that effect we try so hard, in all the different arts, to bring about. Another point: The Japanese have led the world in decorative ingenuity—in finding ways to “place” lines within a given frame space. How cleverly nature does this very thing! Nevertheless I must not belittle the ingenuity of Mr. Sipes.



SPLASHES

His cleverness of selection is one of the notable facts in this collection while the pictures themselves are a worthy contribution to the unusual in photography.

I recall viewing a fireworks exhibition with a hard headed business executive who kept murmuring sadly to himself, “All that money—and over in a second.”

But it needn't be, my dear sir. Mr. Sipes' pictures prove that.



NIGHT FLIGHTS

A SURVIVAL OF THE MIDDLE AGES

THE Logan boys were just back from their vacation in the mountains. Joe was trying to overtake the news of the past several days while Fred was developing the films they had exposed around camp.

"Here's a fellow who had a close call," said Joe. "Walking on top a moving freight train, didn't duck for the Tenth Street tunnel, got knocked off, not a scratch. Lucky, eh?"

Fred's weak affirmative to the query plainly indicated that he was more interested in the negatives he was washing. But Joe was undismayed; he continued: "Ought to be a law requiring more head room in tunnels and under viaducts."

"Yes," agreed Fred, "and there ought to be another law to require more headroom in photographs that you make. Look at these negatives that I am in. In every single one of them you've crowded the finder so that I look like I was driven down into the picture with a sledge. Why didn't you get farther away and include more landscape or else take more sky and less foreground. You know what a rising front is on a camera for don't you? It's plain cruelty to wedge a fellow into a picture like he'd have to be pried out. Look at this one. I cover the whole picture."

"Does give you undue importance, I'll grant," said Joe, still pretending to read. "How about portraits?"

"A portrait is different. All you want is a picture of a person, but these are all story telling pictures. Look at this one of me with a gun over my shoulder. Part of a gun, rather; you cut the muzzle off. You spoiled that picture by not having enough surroundings in it. Where am I? What am I doing? That's what I want to know. This picture could have been made in front of the Methodist Church as far as atmosphere is concerned. And look at my head—"

"I don't have to," Joe grinned. "I know there's something wrong with it."

"It isn't all there," declared Fred.

"Yeh, that's what I mean," said Joe as he laid aside his paper, then added seriously. "Don't see how that happened."

"Looks like I'm hanging from the top of the picture instead of standing on something. If you're bound to crowd a fellow into a picture you ought at least keep your eye on the finder when you press the cable release. Here you've looked up, moved the camera and cut off my head."

"You deserved it; that was the morning you made the coffee," Joe explained.

"But any fellow who uses a camera should know enough not to cut the heads off his subjects."

"Mediaeval kings used to do it sometimes."

"Do what?" asked Fred.

"Cut off their subjects' heads."



TRANQUILITY

Enlarged from negative made with No. 1 Kodak Jr., by George M. Miller

COT
FR

GRAFI
AN
PRE
RECO
OF
SUN
OUTD
DAY



Made with a Graflex, by J. H. Saunders



Made with a 2A Brownie, by Ervin F. Rose

TRY NDS



Made with
a Premo, by
Frieda Reinhart



Made with a Graflex, by J. H. Saunders



THE
GRAFLEX
AFTER
THE
DISASTER

A VICTIM OF THE ROMA WRECK

BELLOWS and hood burnt away, reflecting mirror cracked, lens, front and bed lost and its inside filled with sand and grease, this Graflex only partly survived the catastrophe that befell the air-ship Roma, in which thirty-four lives were lost.

The camera belonged to Mr. Charles W. Dvorack, one of the few passengers to escape death. It was Mr. Dvorack who supervised the installation of American motors in the huge dirigible, which was built in Europe.

On its fateful last flight Mr. Dvorack made two dozen expo-

sure from the right rear motor port. After using the last film he handed his Graflex to a companion. Within a few minutes the giant ship was a tangled mass of wreckage and Mr. Dvorack was struggling to get out of a pool of blazing gasoline.

Several days later, still suffering from terrible burns, he learned that his camera had been found, minus everything that flames could destroy. The box, mechanism and film pack adapter were practically intact, however, so Mr. Dvorack sent the camera to our Service Department for repair.



SPEEDERS

Enlarged from negative made with $2\frac{1}{4} \times 3\frac{1}{4}$ Premo, by Joseph F. Westgate



Made with a Graflex, by Dr. J. B. Pardoe

HARBOR SCENES

IN every harbor where steam tugs and other boats are moving about, pictures that perk of life and action are constantly being created by the passing water craft. Transient as these pictures are to the eye of the observer they can readily be transformed into permanent pictorial records by everyone who knows how to make a snapshot with a camera.

In making these pictures it is important that the chief objects of interest should be more conspicuously rendered than anything else that is included within the field of view. For this reason it is necessary to consider the

background against which the objects of interest will be outlined. If the pictures are made from the deck of a boat that is only a short distance from shore, with the camera pointed toward the shore, the buildings and other structures on the water front will make undesirable backgrounds, unless they are considerably out of focus or are partly obscured by haze.

When the background is 50 feet or more behind the subject it can always be rendered out of focus, with any focusing hand camera, provided the subject is photographed at short range, with the lens wide open and the focus set



Made with a Graflex, by E. J. Brown

for the distance from the camera to the subject.

The best solution of the background problem is, however, furnished by nature, and, when nature solves it for us we can get the results we want with any kind of camera, whether it is of the

focusing or the fixed focus type.

Nature keeps mist or dust or smoke haze suspended in the air above harbor waters, as well as above the land, excepting on days when the temperature drops considerably after a storm.

Haze has no appreciable effect

on the distinctness with which nearby objects can be seen, but it always partly obscures objects in the distance. This fact makes it possible to secure pleasing background effects from distant objects that would, if clearly outlined, seriously detract from the pictorial value of the picture.

In Dr. Pardoe's picture, on page 20, the pictorial attraction centres in the sharply outlined steam tug. As the distance is both hazy and out of focus the unattractive background objects are rendered so inconspicuous that they merely serve as an appropriate setting for the scene.

In Mr. Brown's picture, on page 21, the far distant objects are so little out of focus that had the air been free from haze the distance would have been rendered in darker tones, and the pictorial value of the picture would have been impaired.

When we photograph distant landscapes, where the objects of interest are far away, we regard haze as an enemy. We use a filter for cutting it out, so that we can get clearly defined images of the far distant objects. But when photographing harbor scenes, where the objects of interest are near at hand, we should regard haze as a friend for it permits us to secure pictorial effects that could not be obtained without its aid.

The kinds of pictures we have described can be made with ordinary snapshot exposures—the same as are given for ordinary landscape scenes—with any kind of camera.

The opportunities for making such pictures exist in every ocean, lake and large river port during every month of the year when boats are moving.



THE SILVERY PATH

Made with a No. 6 Graphic, by R. B. M. Taylor



THE BEGINNING OF THE APPLE PIE

Enlarged from negative made with 4 x 5 Premo, by Henry C. Brewster



"The glaring sun blinded me"

REMINISCENCES OF A BROWNIE

I'M a Brownie, a little cousin of the Kodak, and a distant relative of the Graflex.

Last Saturday, Jack Gibbs tucked me under his arm and started for the park.

Strange as it may seem I wasn't a bit in the mood to enjoy that beautiful spring day—at least I wasn't while Jack had me in hand.

Jack was one of those fellows who thought he knew all there was to know about making pictures without reading the manual. He often called on me to do things that were as absurd as a man trying to lift himself over a fence with his bootstraps. As a result some of the pictures I made for him were poor—although it was no fault of mine, even though Jack blamed me for it.

When we got to the park he saw a boy sitting on a bench near a tree in the sunshine and decided that I should make a picture of

him. The sun was on the other side of the boy and I noticed that Jack pulled his hat down to keep the sunlight out of his eyes. He didn't shade me, however, so that in the fraction of a second I had to look at the boy the glaring sun blinded me. I got a hazy impression of the scene, but that was all.

The next instant I heard a man talking to Jack. Evidently he'd been watching him misuse me.

"My boy," he said, "when taking pictures toward the sun, always shade the lens of your camera. Hold your hat a little above and a little in front of it. Now, if you care to take the picture over again I'll shade the lens for you with my hat. I'm sure you'll find the result more satisfactory."

If Jack had only read the manual he would have known this—and saved spoiling a lot of film besides.



"I'm sure you'll find the result more satisfactory"

But as I said before he wouldn't take the time.

When we got home Jack developed the film.

From the results I knew that he realized one of the common mistakes he had been making.

"You certainly make good pictures, old boy," he remarked, "when a fellow knows how to treat you."

And now Jack and I are just getting acquainted.



*Made with
2¼ x 3¼ Graflex*

*By
George T. Bliven*



SUNSHINE

Made with No. 2A Brownie, by Mrs. Albert K. Ludy

PREVENTING STAINS BETWEEN PRINT DEVELOPING
AND FIXING

PROBABLY in your acquaintance there is some one whom you describe as "a good detail man." By that you mean a chap who minds the little things as well as the big—who takes time to check up trifles because he realizes their possible effect on things of more importance.

It often pays the amateur to be "a good detail man"—and the interval between the fully developed print and its transfer to the fixing bath is one occasion where a little thing counts.

The little thing is this.

After development and before fixing put the print in clear water and keep it immersed there for several seconds.

Unless the water is running in and out of the rinsing tray the print should be moved back and forth in the water a few times and then placed, face up, in the fixing bath and kept moving there under the surface for several moments.

Briefly, the reason for these precautions is to prevent staining.

Prints are developed in an alkaline developer, and are then fixed in an acid fixing bath. One of the reasons why an acid fixing bath is used is because the acid in the bath neutralizes the alkali in the developer and quickly stops the action of the developer.

A thorough rinsing between developing and fixing will remove most of the developer from the front and the back surfaces of the paper. If the print is not rinsed

the developer that remains on it will be carried into the fixing bath, with the result that the constant addition of alkali to the acid will neutralize the acid and finally make the bath alkaline.

An alkaline fixing bath should never be used for fixing Velox or any other development paper prints, for the reason that it cannot stop the action of the developer quickly enough. If development is not promptly checked by the fixing bath the prints will grow darker for a time after they are placed in the bath.

Unless prints are completely immersed in the fixing bath immediately after they have been developed and rinsed, those parts of the prints that remain above the surface of the bath will become discolored; and unless they are placed in the bath *face up*, air bells, which cannot be seen when the prints are face down, are apt to remain on the prints. As the fixing bath cannot act where air bells are present, the developer which is in the emulsion under the air bells will make dark spots on the prints.

Prints must be kept moving under the surface of the fixing bath for a few moments after they are placed in it, so that the bath may uniformly penetrate the emulsion and stop the action of the developer, some of which is, in the early stages of fixing, still present in the emulsion. If this is not done dark patches or local stains will appear on the prints.

SERVICE DEPARTMENT TALKS

CONSTRUCTIVE CRITICISM

CONSTRUCTIVE criticism points out our mistakes and tells us how to avoid repeating them.

In photography, as in all other fields of human endeavor, we can learn much from constructive criticism.

All photographers, no matter how skillful they are, may, when undertaking some branch of work with which they are not familiar, obtain results with which they are not wholly satisfied. If they do not know just why they are not satisfied they need, and will appreciate, constructive criticism.

Extending such criticism to those who ask for it is one of the functions of our Service Department.

If you care to have us criticise your negatives and prints we will gladly do so, without charge, in a way that, we believe, will be of practical help to you.

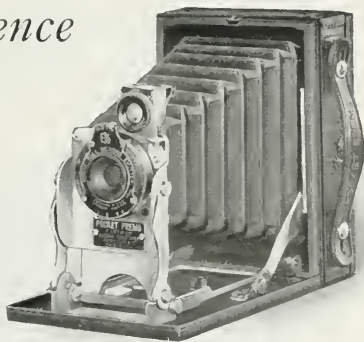


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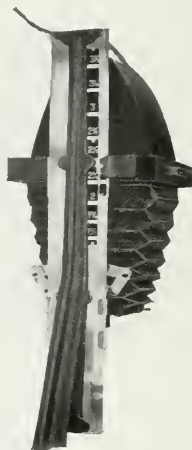
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SLIDE the camera up on its standard—see illustration—and the image grows, as indicated on the scale, to a maximum size of $3\frac{1}{2}$ times the dimensions of the negative; slide it down and the image shrinks, but *the focus is always critically sharp*. The automatic focusing mechanism takes care of that.



Close-up of camera
and auto-focus
mechanism from rear

THE Enlarger takes either plate or film negatives up to 4x6 inches and makes prints on Bromide Paper up to 14x21 inches. Complete with Kodak Anastigmat Lens, negative holder, paper holder, set of flexible metal masks in six sizes and electric cord and plug, but without the 60-watt Mazda lamp required for illumination.

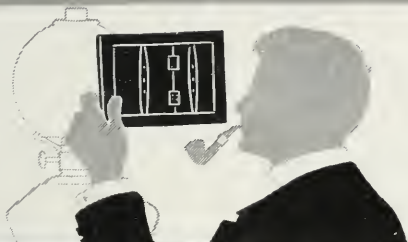
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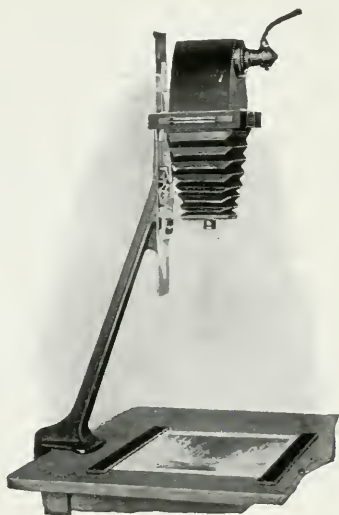
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MAGAZINE *for* AMATEUR
PHOTOGRAPHERS



OCTOBER 1922



CANADIAN KODAK CO., LIMITED.
TORONTO, CANADA



Kodak Auto-Focus Enlarger

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IN HAY TIME

Enlarged from a Graflex Negative, by F. E. Bronson

KODAKERY

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No. 12



LINING UP FOR THE GRAND PARADE

BOB AND HIS BROTHER VISIT BARNUM & BAILEY

"**B**ILL, mother says I can't go and watch the circus come in to-morrow morning unless you go with me." Bob spoke wistfully, longingly, appealingly.

"Haven't time for the circus," muttered his big brother, delving deeper into the sport page of the evening paper.

"Aw, come on, Bill—," a sudden inspiration struck the youngster,

"—come on. Take your new Graflex and let's see what kind of pictures you can make."

Here Bill stopped reading the "Spotlight" column and admitted to himself that the circus would, indeed, be a rare opportunity for pictures with his proudest possession, a Graflex. Yet very deliberately he folded the paper, very deliberately he spoke.



A SPECIAL GLIMPSE

"Oh, well, suppose I ought to take you, kid, and I might as well take the Graflex too, and show you some real pictures. Saunter off, son, and I'll see you in the morning."

At 6 A.M. the next day Bob was struggling to get Bill started—

he had already spent half an hour waking his brother up.

"You can't make pictures in the middle of the night without a flashlight and that would scare the animals." This was Bill's consistently reiterated, sleepy, un-availing protest.

"Tisn't the middle of the night, it's broad daylight," wailed Bob, "and it'll be noon before you get started." Again a happy thought occurred to him. "Besides, if we don't get there early there'll be so many people around you can't make any good pictures. Everybody will get in your way."

This was the first real argument for early rising, even on circus day, that Bill had heard so he grumbled, "Oh, all right," and in an hour's time they were at the freight yards. Here they watched bored and blasé circus hands manipulate ropes and winches with an unhurried nonchalance, yet with remarkable speed, while teams of tired-looking horses dragged animal cages off the flat cars and down a ramp to the street. One incident they witnessed was the feeding of Mighty Martha, the hippopotamus, and Tiny Toodles, her infant progeny. Even Bill, the superior, who had no time for the circus, was interested in this, so interested he forgot to take the lady's picture!

From the freight yards the boys hurried to the "lot"—the name that Bob had overheard some of the circus folks give to the big field, all marked off with rods, each topped with a little red flag, and stuck in the ground to mark the places where stakes and poles for the



POPULAR PERFORMERS



THE BIGGEST ATTRACTION



"SENSATIONAL, BEAUTIFUL, ENTRANCING!"

"big top" and other tents should go. Accordingly he scornfully corrected his brother when Bill spoke of going to the "circus grounds." Here Bill at once got busy with his Graflex, adding film pack tabs galore to the pop corn wrappers and peanut bags that already littered the ground.

The boys were early enough to escape the bulk of the constantly increasing crowd of onlookers who later made purely circus pictures practically impossible, and, up to the time the elephants and the cages, the beautiful ladies and their snakes, the clowns, the camels, the calliope moved off in a stately column forming the street parade, picture possibilities were plenty.

Gangs pitching the tents and driving stakes, six horse teams, occasionally helped by an elephant who pushed with his head, hauling animal cages into place—it was all of thrilling interest to Bob, while Bill kept his Graflex busy, filming the fun.

When the prints of the negatives Bill made came back from Lacey's Finishing Department, Bill was highly pleased with himself and his Graflex, and Bob babbled circus for the rest of the week, explaining each picture at length and declaring with every other breath, "Next year when the circus comes to town, I'm going to take my Brownie—wish I had this time."



FIG. 1

DOC FINDS A TIMBER DOODLE

BY HOWARD TAYLOR MIDDLETON

My little red diary tells me that it was on Sunday, the ninth of April, that Doc found the timber doodle. It happened thus: Village Doctor, the blooded young black and white setter, undergoing training on birds, was due for a lesson at the end of a long leash. There being a probability that the dog might find quail, I was invited to "get the Graflex and come along."

Traversing a brushy bottom, at the edge of an old wood road, where the willows and alders grow, Doc "froze" into an ungainly point.

"Something ahead of his nose," came in a tense whisper from Doc's owner.

Knowing that Bob White flies at the terrific rate of seventy-five feet per second, and that he gets going in no time at all, I realized that if I waited until the game flushed before making an exposure, it would be too late. It takes at least a quarter second for the brain to telegraph the command "Fire!" to the shutter finger, and in that time the birds would have traveled nearly twenty feet. At close range this would make a picture almost an impossibility. What I did was to give vent to a war whoop worthy of a Mohawk brave, at the same time pressing the release. Exposure, $\frac{1}{1000}$ second at $f4.5$. To my intense surprise nothing happened. If anything lurked in



FIG. 2

the grass in front of the dog, it was not frightened at noise.

"Doc's fooling us, George," I scoffed. "There's nothing there."

"There is something there; it's a timber doodle on its nest," replied George positively.

"A timber doodle?" I exclaimed incredulously. "I thought the days of prehistoric creatures ended when the dinosaur went out of fashion."

As Doc was coaxed quietly away from the nest, and tied up at a safe distance, my friend waxed descriptive: "Timber doodle," quoth he, "means woodcock, you bogus humorist, and believe me, a nest is a rare find. Old man, you are in luck this beautiful Sunday mornin'."

Pal was in the car on the nearby highway, and she came running in

response to my signal heliographed with a pocket mirror.

I had never photographed a brooding woodcock—never even seen one for that matter—but judging from my experience thus far, I had great hopes of getting near enough for a big image. Striving for depth of focus, so valuable in a close-up wildlife portrait of a bird on its nest, I slowed the shutter to $\frac{1}{25}$ second, and stopped down the big lens to f.11.

Moving with infinite caution, I eventually found myself kneeling within four feet of my quarry, and Mrs. Big-Eyes didn't even blink. (Fig. 1.)

"I believe she'll let me stroke her. Shall I try?" from Pal.

"Some picture that if you get it!" from George in the background.

I moved forward, and as Pal's fingers caressed the satin-smooth back with its finely blended tones of warm brown, gray, and russet, released the shutter. (Fig. 2.)

We were obliged to disturb the little lady so that we might photograph the nest, but she was more than decent about it, winging with jerky flight to an adjacent bog where she could still be seen as she bored for angleworms, her favorite diet. A woodcock is 99% angleworm.

The eggs, four in number, were grayish white with spots of reddish brown, and just a tint of buff here and there to add beauty to the color scheme. Exposure, $\frac{1}{25}$ second at f.11. (Fig. 3.)

Another peep into my diary discloses the fact that a whole week sped by before we again visited the brushy bottom, and combed it for the home of the timber doodle. Although we had a land mark or two to aid us in our search, it was a long time before we were successful. This was due to the marvelous protective coloration of the woodcock's feathers. Prior to my introduction to Mrs. Big-Eyes, I agreed with a colored man of my acquaintance that "de ole whip-poo-h-will shuah am de worl's champeen foh bein' whar it aint," but now I was forced to change my opinion. Even at a distance of a few feet, she was mighty hard to find, only the gleam of her large eye testifying that what resembled a few dead leaves was in reality a brooding bird.

We flushed her as gently as possible, and found the eggs hatching. One little woodcock was



FIG. 3

already out of the shell and another coming fast. Making an exposure of $\frac{1}{25}$ second at f.11., we departed to a spot twenty yards away for the good of the brood. (Fig. 4.)

Friends to dine, under normal circumstances, are a joy, but now we were ten miles from home, young woodcocks run almost at birth, and there was but half an hour to lunch time. A return to the nest in an hour meant the sought-for juvenile portraits; instead, we had to go home and eat.



FIG. 4



FIG. 5

It was after sunset when, for the last time, we gazed down upon what had been the home of Mrs. Big-Eyes, but we found it quite abandoned now, only a few scattered shells marking the site.

We began our crestfallen way back to the car, when Pal paused, pointing. About fifteen feet from the empty nest we found her, cuddled down in the grass.

"The young must be under her," I murmured. "I'll take a picture of the old bird first; then flush her and photograph the young."

The light was very bad as the sun had disappeared and dusk was fast approaching. Setting the shutter at $\frac{1}{10}$ second, and the lens at *f*5.6, I kneeled with the Graflex held firmly against my chest, while Pal steadied me from behind, exhaled, held my breath, and

pressed the release. Note the luminous quality of the lighting on the figure of the bird. (Fig. 5.)

The picture of mother taken, we were eager for the youngsters. Prodding the bird gently with a very slender switch, Pal sent her into the air—and then it was we witnessed a sight never to be forgotten. Instead of leaving her children with us to have their portraits done, she took, at least, one of them with her. She flew straight into the afterglow of the western sky with a cargo between her thighs, and so heavy was that cargo that her flight was slow and labored. When we looked into the "form" she had left, we found it empty, and when we searched diligently for the young that might remain we found them not.

If the light had been stronger—

if we had known that Mrs. Big-Eyes always took her children with her when she moved, oh what a chance for a super-picture

would have been ours, a wildlife portrait so stupendous as to make its takers famous over night! Alas! there are always "ifs."



CONNING THE COMICS

TO CONVINCE NOAH

ALMOST every year since the Cascade dam went out, Eagle river had tired of its bed and wandered all over lower Beardsley.

To mark high water, Ed Flannery, who manipulated the railway crossing gate, always rowed over to his yellow tower and cut a notch in one of its supporting timbers. Then after the water had gone down and the new notch had got discolored by soot, Ed spent several perplexed months wondering which of the marks was this year's.

Bert Adams, however, was more thorough. From his telegraph office above the station he made Kodak pictures, every year, of the flooded yards. And each negative got a date. Then, whenever a question arose about the height of the water, Bert's prints were produced. But if Bert hadn't used his autographic device his pictures would have been as easily confused as the notches on Ed Flannery's crossing tower.

The date's the thing, and with an autographic camera you can have it on each negative.



DON'T EMULATE THE JUGGLER

IN a circus, Danny Sheehan once saw a man sing a song, dance a jig, whirl a lariat and at the same time balance a glass of water on his fingertips.

Danny was much impressed because even at the age of eleven he knew that the average fellow's body works like one person instead of like a crowd. Great as it was, however, this truth failed to stay by Danny, particularly when he was making pictures with his Brownie.

Some of his prints were indistinct. Faces were hard to recognize. Rosa, the cook, appeared to have reconstructed her features from dough, a desert scene looked as if a mirage had passed before the lens and the Mexican hairless dog became a young collie.

Danny's brother, Ed, home for his vacation, soon discovered the

reason for the spooky pictures. He found that Danny was always in a hurry and consequently he often moved the camera.

Ed demonstrated the proper way to make an exposure, which is to stand still, grip the camera with the fingers of both hands underneath, hold the breath for an instant and press the exposure lever carefully, just as the manual explains.

Danny tried it and there wasn't a single indistinct negative on that roll of film when he developed it. He knew then that his failures were due to his attempts to emulate the man in the circus, by jiggling his body, shifting his legs, and panting along as usual while he was making exposures. Now he stands as immovable as a lazy burro every time he takes a picture.



SUMMER TROPHIES

Made with No. 2 Brownie, by Marie F. Tuma

THE RIGHT EXPOSURE

THERE are three factors that have a bearing on the exposure of the film in your camera: the strength of the light, or brightness of the day; the size of the opening, or stop, in the lens through which the light enters the camera, and the speed with which the shutter opens and closes regulating the length of the exposure.

If good negatives are to be secured, thought must be given to all of these factors. But it is possible and quite simple to reduce one's calculation of exposure to one factor provided the other two can be kept uniform.

As an example, the light on a bright sunny day will vary in brightness, but for all practical purposes we may say it is the same in summer from $2\frac{1}{2}$ hours

after sunrise to $2\frac{1}{2}$ hours before sunset. So we have one factor that is stable.

For all cameras having Rectilinear or Anastigmat lenses and a shutter speed of $\frac{1}{25}$ second we can make a second factor stable. On all sunny days use a shutter speed of $\frac{1}{25}$ second.

This leaves but one factor for the photographer to think of, the stop, or lens opening, and by varying this the exposure may be easily controlled so that a perfect negative may always be secured on a bright day.

The size of the lens opening will be determined by the nature of the subject. Marines, beach scenes or distant open landscapes are brightest of all and may be considered as class one. For Rectilinear lenses



FIG. 1—3A Kodak Special, 3 P. M., exposure $\frac{1}{150}$ second, stop *f.22*

use stop 32. Anastigmat lenses, stop *f.22*. These stops are the same in value, the only difference being that the stops for Rectilinear and Anastigmat lenses are determined by different methods of calculating their size.

Ordinary landscapes showing sky but with a principal object in the foreground come under class two. For Rectilinear lenses, use stop 16; Anastigmat lenses, stop *f.16*. This is the only point in the two systems of measuring stop values in which the numbers are the same for the same size and value of stops.

Our illustration is a subject of class two. In Fig. 1 the light was right but the shutter speed and stop were both wrong; the stop too small, the shutter speed too fast, the result, insufficient light to produce a good picture. In Fig. 2, the light, the shutter speed and the stop worked in harmony to

produce a properly exposed negative, resulting in a good picture.

If it had been necessary to operate the shutter twice as fast ($\frac{1}{30}$ of a second) to catch a group of children playing about the park bench where the man is sitting, a stop allowing twice as much light to enter the camera (stop *f.11*) would have produced an identical result. But we will not consider moving objects in these instructions as it might be confusing.

Under class three come nearby landscapes showing little or no sky, groups and street scenes. For Rectilinear lenses, use stop 8; Anastigmat lenses, *f.11*.

Class four includes nearby, shady scenes or portraits in open shade, not under trees or on porches. For Rectilinear lenses, use stop 4; Anastigmat lenses, *f.7.7* or *f.8*.

If these instructions are followed it is a simple matter to get as good pictures as shown in



FIG. 2—3A Kodak Special, 3 P. M., exposure $\frac{1}{25}$ second, stop *f.16*

Fig. 2 of any subjects coming under the four classifications we have given. Because shutters have speeds faster than $\frac{1}{25}$ of a second is not a reason for using these speeds when the subject does not demand them.

Learn to photograph simple subjects first—then advance to subjects that require different stops or shutter speeds, and you will find that each succeeding class of subjects will become just as easy to photograph.



Made with 2A Brownie, by Evelyn Wolph



Made with a Gratlex, by M. W. Reeves



Made with 3A Kodak Special, by
Neilson Rittenhouse



Made with No. 1 Kodak Jr., by
Miss Frances M. Webster

DOD



Made with
a Graflex

by
M. W. Reeves



Made with a Premo, by Alf. Erichsen



BENCH WARMERS

Made with No. 1 Kodak Special, by E. J. Brown

THE WOODS AND PARKS IN AUTUMN

THERE is scarcely any place in the forest or among the closely set trees of a city park that cannot be successfully photographed while leaves are on the trees.

If the place is so densely shaded during the summer months that an important part of what we want to picture is hidden by foliage we should not wait until all of the leaves have fallen, for the lighting effects which will give us the most pleasing representation of our subject can very often be observed during the month of October, while the trees are shedding their leaves.

Trees lose their foliage so gradually, and some species shed their

leaves so much later than others, that wooded areas, which were densely shaded in summer, become more open to sunshine with every passing day, during practically the whole month of October.

The most pleasing lighting effects can usually be observed while there are still a lot of leaves on the trees. From sunrise until about 10 o'clock, and again from about 3 o'clock until sunset the slanting sunlight and the long shadows lend a kind of charm to the wooded places that is wholly lacking during the summertime. And the absence of insect pests at this season of the year makes it possible for us to ramble in comfort in many places



THE FALLS

Made with a No. 3 Kodak

which they forbade us from visiting on sultry summer days.

When photographing these sun-light-and-shadow subjects the writer always makes two negatives, giving one an ordinary snapshot

exposure with a fixed focus box camera, or, when using a focusing camera giving an exposure of $\frac{1}{25}$ second with stop 8 (*f.11*), and the other negative is made with a one second exposure with the smallest

stop, on both types of cameras.

If the snapshot proves to be under-exposed, as it sometimes does, it makes a pleasing picture of patches of sunlight and shadow, with little detail. The 1-second exposure has always given all the detail that was wanted.

Do not use a filter for photo-

graphing autumn leaves unless you wish to have the picture record yellow leaves in a light tone. An orthochromatic filter is of no advantage for red or brown leaves.

With a Kodak Filter the exposure should be 10 times, and with a K2 filter 20 times as long as those we have recommended.



A FREIGHT
BOAT
ON THE
RIVER

*Made with a
3A Kodak
Stop 16,
Exposure
 $\frac{1}{50}$ second*



The flashlight picture described in the accompanying article

OUTDOOR FLASHLIGHTS

CAMP FIRE scenes, portraits, groups and story telling pictures can be made outdoors, at night, by flashlight, as easily as flashlight pictures can be made indoors, the chief difference being that greater illumination is needed for getting amply exposed negatives.

When flashlights are made in living rooms the subject is illuminated, not only by the light that travels directly from the flash to the subject, but also by the light that, after travelling from the flash to walls and ceiling, is reflected to the subject.

This reflected light is needed for illuminating the shadow side of the face and figure. In indoor work it

also aids, in a secondary manner, by softening the general illumination, thus avoiding the harsh lines and strong contrast between adjoining tones that are always found in flashlight pictures that were made without the aid of reflected light.

Obviously walls and ceilings are not available in woods and fields and we must, in our outdoor flashlight work, provide some reflecting surface. All that it is practical to provide, however, is a single reflector, but this can be placed near enough to our subject (just outside the field of view of the lens) so that it will reflect the light to the parts of the face that the lens can see, but that the direct

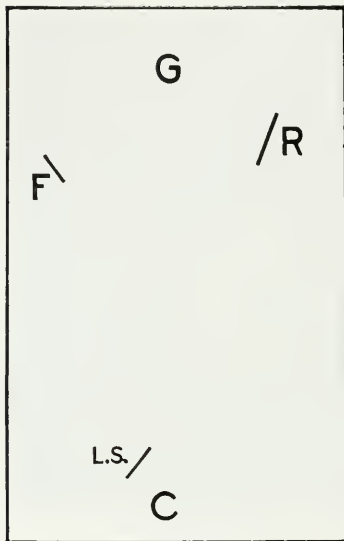


Diagram showing arrangement of elements in making picture on preceding page

G—Group C—Camera
R—Reflector F—Flashsheets
L. S.—Light Screen

light from a flash that is to the right or to the left of the camera cannot reach.

The reflector should be not less than 3 feet square for a single figure, and not less than 6 feet square for a small group.

Our illustration was made on a September night when the darkness was so intense that it was necessary to build a camp fire to get enough light for setting up the camera and making the arrangements for taking the picture.

The fire was built about 20 feet from the group, but as it had nearly burned out by the time the arrangements were completed its

light had no effect whatever on the film during the time the shutter was open.

For determining the position that each member of the group would occupy in the picture a pocket flashlamp was passed from one to another, and the position of its light noted in the finder when it was held in front of each face.

A 10 foot stick was stuck into the ground, 8 feet from the group, in front of and to the left of the camera. Three No. 3 Eastman Flashsheets were pinned, 6 feet above the ground, to this stick. They were placed one above another so that the lower edge of the top sheet just overlapped the upper edge of the middle sheet and the lower edge of the middle sheet overlapped the top edge of the lowest one. This gave a light source of about 100 square inches, instead of only the 35 square inches that would have been obtained if the sheets were bunched together.

Back of the sheets, a newspaper, twisted in the form of a rope, so that it would burn slowly, was fastened to the stick. The lower end of this paper rope was about 18 inches below the bottom of the lowest flashsheet.

As the sheets were to be ignited at a position from which their light would travel directly to the lens two sticks were driven into the ground, 2 feet apart and 2 feet from the camera, on a direct line from the lens to the flashsheet. A coat, thrown over these sticks, prevented the flashlight from shining on the lens and fogging the film.

The reflector, a white table

cloth, 6 x 8 feet, was fastened to two sticks at the position shown in diagram, for illuminating the shadow sides of the figures.

When all was in readiness the writer opened the shutter on T (Time), lit the paper rope and took his position in the group. The flame reached the flash sheets in about half a minute and then the shutter was closed.

Lens stop No. 4 (*f*.8 on anastigmat lenses) was used.

That the illumination was ample is shown by the detail in all but the deepest shadows. Even the

branches of the hemlock trees, that were 6 or 8 feet behind the group, were well illuminated.

When picturing a group beside a camp fire it is best to arrange the subjects so that, when viewed from the position of the lens, no one can be seen behind the fire. We cannot photograph through smoke and get satisfactory portraits.

As all flashlight preparations are highly inflammable they should be handled carefully and all the precautions that the makers recommend should be observed.



CATHEDRAL AT MEXICO CITY



*Enlarged from Vest Pocket Kodak Special Negative, made with
Portrait Attachment, by Harold D. Van Dortyn*

DEVELOPING ON THE SPOT—AN EMERGENCY METHOD

FREQUENTLY the question "Wonder how they came out?" as applied to exposures made in the wilds at vacation time becomes too insistent to await return to civilization for the answer. Frequently, too, the pictures are important enough and the opportunity rare enough that immediate knowledge as to the quality of the negatives is essential, with a view to re-making them if desirable.

As the entire equipment needed for developing and fixing films can easily be packed in a traveling bag, developing on the spot, in a Kodak Film Tank, with Kodak Tank Developer Powders, becomes a very simple matter, and fixing the negatives with Kodak Acid Fixing Powders is equally simple. The facilities for washing the negatives must, however, be found where the developing is done.

When on an outing the writer has frequently washed film negatives in lakes and ponds and has found this method far more satisfactory than using the customary tray or tank or any other receptacle that may be available. When washing films in this way, the chemicals are washed out in 30 to 45 minutes and the negatives require no attention until they are taken out of the water and hung up to dry.

Washing films in lakes and ponds may be accomplished very efficiently by attaching a Kodak Film Clip to each end of the roll. One

clip is then fastened to a board and the film lowered in the water, the clip on the free end of the roll acting as a weight to keep the film hanging straight downward from the float.

It is necessary that the water be clear and that it be deep enough so that the film will not be scratched by coming in contact with weeds found in shallow water. Precautions should, of course, be taken against drifting.

It is not advisable to suspend films from an anchored float when the water is rough. If this were done the negatives might be injured by coming in contact with the anchor rope or foreign substances that float about when the water is rough. However, the films can be well rinsed in rough water, then dried and finally washed under more favorable conditions.

Since running streams usually carry sediment which would scratch the negatives badly, washing films in the current of a river or a creek is not recommended.

These methods of washing films are thoroughly practical but they are only recommended for use in an emergency, and the following precautions should be carefully observed when employing them.

A fresh acid fixing bath should always be used. Allow the negatives to remain in this bath half an hour or longer, occasionally moving them about so that the solution will have free access to both the front and back of each negative.



AS THIRSTY AS A CAMEL

Unless the gelatine coating on the film has been well hardened by thorough fixing in a fresh acid fixing bath it is apt to frill, that is, pucker up and leave its support, when left a long time in warm water. As the water in small lakes and ponds is quite apt to be warm in the summer months, it is best to test the temperature of the water with a thermometer. If it is warmer than 55 degrees the films should not be washed for more than ten minutes. They should then be dried, and washed again at home for an hour in running water, or in twelve changes at five minute intervals, in a tray. After films have once dried a longer time is required to wash the chemicals out of them than if they were washed thoroughly immediately after being taken from the fixing bath.

When unfavorable conditions make it impossible to give the negatives a thorough washing, it is advisable to wash enough of the chemicals out of them so they will not crystallize on the surface of the negatives after they are dry. This will be accomplished in a few minutes. The thing to guard against is injury to the wet gelatine in which the image is imbedded.

If any dirt is left on the films after washing they will feel gritty when dry, and the only safe way to remove this is to place them in clear water for half an hour or more, then place each film on a sheet of glass and gently wipe off the dirt with a tuft of *wet* absorbent cotton.

With a little ingenuity films can be perfectly developed, fixed and washed even if you are many miles from Main Street.

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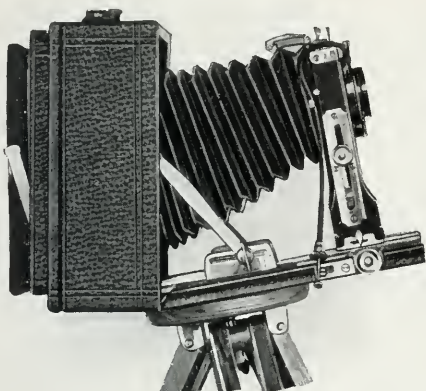
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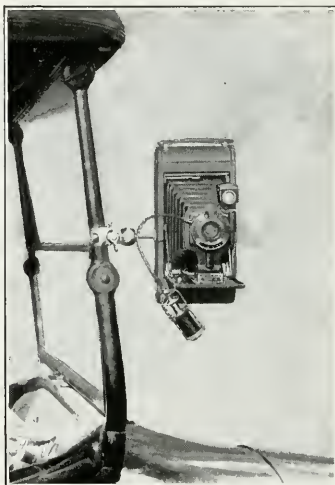
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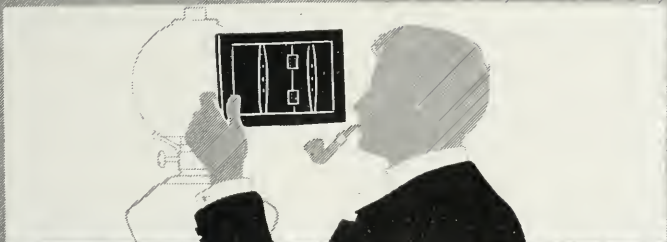
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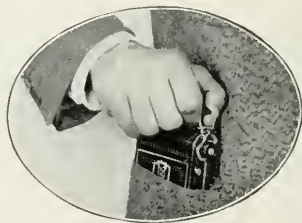
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